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Vol 2



BOTANICAL ARRANGEMENT
OF
BRITISH PLANTS;

INCLUDING

THE USES OF EACH SPECIES,

IN

MEDICINE, DIET, RURAL ŒCONOMY AND THE ARTS.

WITH AN EASY

Introduction to the Study of Botany, &c. &c.

ILLUSTRATED BY COPPER PLATES.

THE SECOND EDITION.

By WILLIAM WITHERING, M.D. F.R.S.

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INCLUDING

A NEW SET OF REFERENCES TO FIGURES.

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V O L. II.

BIRMINGHAM: PRINTED BY M. SWINNEY;

FOR G. G. J. & J. ROBINSON, PATERNOSTER-ROW,
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M,DCC,LXXXVII.

Class XI.

D O D E C A N D R I A.

XII C H I V E S.

NOTWITHSTANDING the title of this Class, the number of Chives is not very certain; some of the Flowers containing more, and some of them fewer than 12; so that it is necessary to attend to another circumstance, (viz.) that in this Class the Chives are fixed to the RECEPTACLE, but in the next Class they are fixed to the CUP.

The different species of SPURGE are generally supposed difficult to investigate, but the young botanist will soon learn to distinguish them, by attending to the following circumstances:

- | | | |
|-------------|---|--|
| Whether the | { | Root be annual, biennial, or perennial. |
| | | Whether the plant in question be a shrub, and if so, whether it be thorny, or prickly, or neither. |
| | | Stem is naked, cylindrical, or angular. |
| | | Leaves are opposite or alternate; and of what shape. |
| | | Rundle is general or partial; how divided, and how fenced. |
| | | Flowers have only chives, or both chives and pointals. |
| | | Petals are entire; crescent-shaped, or hand-shaped, &c. |
| | { | Capfules are hairy, warty, or smooth. |

*Order I.**MONOGYNIA; I. POINTAL.*

642. AS'ARUM. *Bloss.* o. *Cup* 3 clefts; superior.
Capsule 6 cells.
660. LY'THRUM. *Bloss.* 6 petals. *Cup* 12 clefts;
 beneath. *Capsule* 2 cells.

*Order II.**DIGYNIA; II. POINTALS.*

663. AGRIMO'NIA. *Bloss.* 5 petals. *Cup* with 5 clefts;
Seeds 1 or 2.

*Order III.**TRIGYNIA; III. POINTALS.*

664. RESE'DA..... *Bloss.* petals with many clefts.
Cup divided. *Capsule* 1 cell;
 gaping.
665. EUPHOR'BIA. *Bloss.* petals fixed by the centre.
Cup distended. *Capsule* 3 berries.

*Order IV.**TETRAGYNIA; IV POINTALS.*† *Tormentilla erecta.**Order V.**HEXAGYNIA; VI. POINTALS.*† *Sedum dasphyllum.**Order VII.**DODECAGYNIA; XII. POINTALS.*667. *SEMPERVIVUM.* *Bloss.* 12 petals. *Cup* with 12 divisions. *Capsules* 12.† *Thalictrum alpinum.*

Order I.

MONOGYNIA; I. POINTAL.

642. AS'ARUM. Afarabacca.

EMPAL. Cup 1 leaf; bell-shaped; with 3 shallow clefts; like leather; coloured; permanent. *Segments* upright; with the point bent inwards.

BLOSS. none,

CHIVES. *Threads* 12; awl-shaped; half as long as the cup. *Tips* oblong; growing to the middle of the threads.

POINT. *Seed-bud* either beneath, or else hidden within the substance of the cup. *Shaft* cylindrical; as long as the chives. *Summit* starry; with 6 reflected divisions.

S. VESS. *Capsule* like leather; generally with 6 cells; inclosed within the substance of the cup.

SEEDS many; egg-shaped.

ESS. CHAR. *Empalement* with 3 or 4 clefts; seated on the seed-bud. *Bloss.* o. *Capsule* leather-like; crowned.

common AS'ARUM *europæum*. Leaves kidney-shaped, blunt, in pairs.—

Ludw. 182.—Sheldr. 19.—Fl. dan. 633.—Mill. ill.—Blackw. 383.
—Trag. 64.—Dod. 358, repr. in Lob. obs. 328. 2, Ger. em. 836. 1, and H. ox. xiii. 7. row 3. 1.—Fark. 266. 1.—Matth. 36.—Fuchs. 10, cop. in J. B. iii. 548, leaves in the 3 last too pointed. *Habit* good.—Mill. 53. 1. a.

Blossoms purplish.

Woods and shady places, Lancashire. P. May.

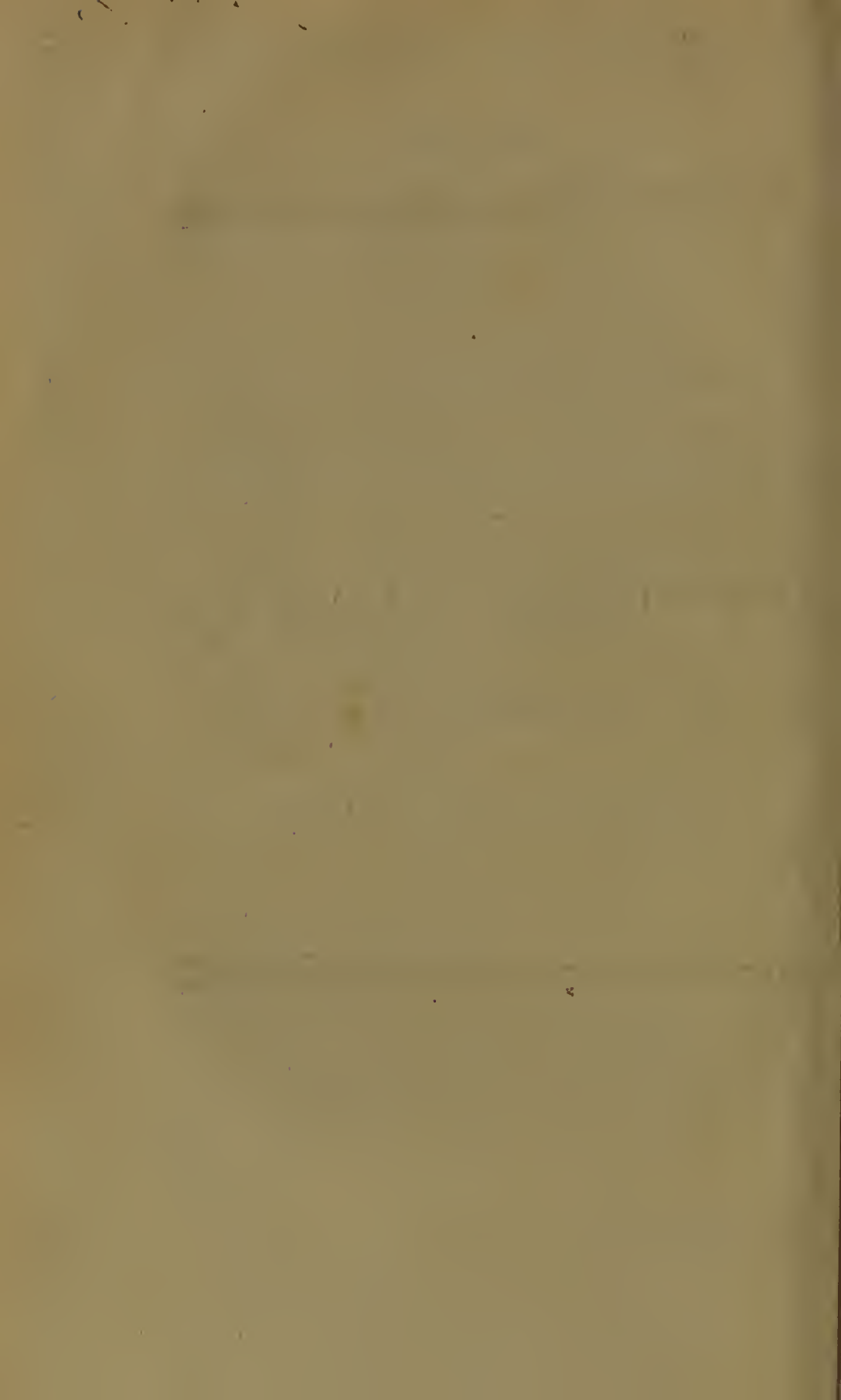
The root powdered, and taken to the amount of 30 or 40 grs. excites vomiting. If it is coarsely powdered it generally purges. The powder of the leaves is the basis of most of the Cephalic Snuffs, which occasion a considerable discharge of mucus from the nostrils without much sneezing. An infusion of 1 or 2 drams of the leaves, in wine, vomits.

Cows eat it.



A
BOTANICAL ARRANGEMENT
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660. LY'THRUM. Grafspoly.*

EMPAL. *Cup* 1 leaf; cylindrical; scored; with 12 teeth; every other tooth smaller.

BLOSS. *Petals* 6; oblong; rather blunt; expanding; fixed by the claws to the divisions of the cup.

CHIVES. *Threads* 12; thread-shaped; as long as the cup; the upper shorter than the lower ones. *Tips* simple; rising.

POINT. *Seed-bud* oblong. *Shaft* awl-shaped; declining; as long as the chives. *Summit* round and flat; rising.

S. VESS. *Capsule* oblong; taper; covered; cells 2.

SEEDS numerous; small.

ESS. CHAR. *Empalement* with 12 clefts. *Petals* 6; inserted into the empalement. *Capsule* 2 cells, and many seeds.

LY'THRUM *Salicaria*. Leaves opposite, heart-spear-shaped. Flowers in spikes. Chives 12. LINN.—1-6th of the parts of fructification very generally wanting. Mr. HOLLEFEAR.—All the leaves sometimes alternate. WITH. purple-spiked

Curt. iii. 31.—Fl. dan. 671.—Math. 950.—Chif. ii. 51. 1, repr. in Dod. 86. 1, Ger. em. 476. 5, and cop. in Park. 546. 1, and Pet. 62. 6.—Blackw. 520.—Ger. 386. 2.

Stem upright, 4-cornered, branching above. *Branches* terminated by long close spikes, composed of close set half whorls of flowers, intermixed with small leaves. *Petals* purple, flaccid. HALL.—*Empalement* with 10 angles. Scop.—*Stem* with short white hairs. *Leaves* spear-shaped, sitting, the upper sometimes alternate. *Flowers* in tufts in the bosom of the leaves, sometimes close together, forming a long leafy spike. *Empalement* hairy, 6 of the teeth short and blunt, the other 6 awl-shaped. *Petals* fixed within the longer teeth of the empalement. *Threads* fixed to the empalement. *Tips* yellow, fixed to the ends of the threads, after flowering almost black. WITH.

Marshes and banks of rivers.

P. July. Aug.

Purple-spiked Willowherb, or Loosestrife.

Horses, Cows, Sheep, and Goats eat it.

γ. Leaves in threes. Stem 6-cornered. RAY. RELH.

3-leaved

* Mr. Hudson gives to both *Lyfimachia* and *Lythrum* the same English generic name. ST.

hyssop-leaved LY'THRUM *Hyssopifolia*. Leaves alternate. Chives 6.
Hall. jen. 6. 2. at p. 295.—Jacq. fl. II. 133.—C. B. pr. 108, cop.
in J. B. iii. 792. 3.—Ger. em. 581. 2, cop. in Park. 220. 2.—
[Hall. jen. 6. 3, a good figure of it with an unbranched stem.
Mr. WOODWARD.]

Stems trailing, rather stiff, branching, rod-like. Leaves alternate, sitting, strap-spear-shaped, quite entire. Flowers solitary, in the bosom of the leaves. Empalement tubular, with 5 or 6 open teeth. Petals 6, purple, white at the base. Chives shorter than the empalement. LINN.—Stem simple, or branched near the root, not so upwards. Leaves strap-shaped, scattered. Flowers nearly sitting. Blossoms blue. Mr. WOODWARD.

Grafspoly. Small Hedge-hyssop.

Watery places, and where water has stood during the winter.
 [Near the Wheat Sheaf, 5 miles from Huntingdon, on the North road. Mr. WOODWARD.] A. Aug.

Order II.

DIGYNIA; II. POINTALS.

663. AGRIMONIA. Agrimony.

EMPAL. Cup 1 leaf; with 5 clefts; sharp; small; superior; permanent; surrounded by another cup.

BLOSS. Petals 5; flat; notched at the end; claws narrow; growing to the cup.

CHIVES. Threads hair-like; shorter than the blossom; fixed to the cup. Tips small; double; compressed.

POINT. Seed-bud beneath. Shafts 2; simple; as long as the chives. Summits blunt.

S. VESS. none. The Cup grows hard and closes at the neck. SEEDS 2; roundish.

ESS. CHAR. Empal. with 5 teeth, encompassed by another. Petals 5. Seeds 2; in the bottom of the empalement.

OBS. The number of chives exceedingly uncertain; in some flowers 12, sometimes 10, frequently 7.

common AGRIMONIA *Eupatoria*. Stem-leaves winged; the odd leaflet on a leaf-stalk. Fruit rough with hair.—

Ludw.

Ludw. 29, *spike forcibly bent aside*.—*Mill. ill.*—*Fl. dan.* 588.—*Ger.* 575.—*Blackw.* 283.—*Fuchf.* 244, *cop. in J. B. ii. p. k.* 398.—*Dod.* 28. 1, *repr. in Lob. obs.* 394. 2, *Ger. em.* 712, *and cop. in Park.* 594. 1.—*Matth.* 1014.—*Trag.* 514.—*Lonic.* i. 218. 1.

The odd *leaflet* on a very short leaf-stalk, and sometimes nearly fitting. *St.*—*Stem* cylindrical, roughish, hairy. *Leaves* hairy, covered with rising dots, and segments ending in small reddish glands, interruptedly winged; the smallest pair of little leaves entire, the others deeply serrated. *Fruit-stalks* surrounded at the top with a sort of outer empalement, which is cloven into 5 spear-shaped irregular segments, hairy at the edges and the outside. Within this the fruit-stalk is covered with white upright bristles, above which again is a circle of numerous green awns hooked at the end, and, within these, the proper empalement. *Empalement*, leaves 5, spear-shaped, concave, glandular without, within marked with 3 deeper green lines, terminating with a reddish point. *Petals* egg-shaped, concave, very slightly notched at the end. *Chives* 5 to 12. *Threads* bent inwards, pale yellow. *Tips* orange-coloured. *Seed-bud* crowned with the empalement, and yellowish fleshy receptacle. *Shafts* thread-shaped. *Summits*, 2 thin lips at the end of each shaft. *Capsule* egg-shaped, hairy, ribbed. *Seeds* nearly egg-shaped, flattened on one side. *Flowers* on long terminating bunches. *Blossoms* yellow. *WITH.*

Borders of corn fields, shady places, and hedges. P. June. July.

The Canadians are said to use an infusion of the root in burning fevers, and with great success. An infusion of 6 ounces of the crown of the root, in a quart of boiling water, sweetened with honey, and half a pint of it, drank 3 times a day, Dr. Hill says, is an effectual cure for the jaundice. He advises to begin with a vomit, afterwards to keep the bowels soluble, and to continue the medicine as long as any symptoms of the disease remain.

Sheep and Goats eat it. Cows, Horses, and Swine refuse it. *LINN.*—The flowers, fresh gathered, smell like apricots. *WITH.*
A Horse eat it. *ST.*

Order III.

TRIGYNIA; III. POINTALS.

664. RESE'DA. Yellow-weed.

EMPAL. Cup 1 leaf; divided; *segments* narrow; sharp; upright; permanent; 2 of them standing more open on account of the honey-cup petals.

BLOSS. Petals several; unequal; some with 3 shallow clefts; the *uppermost* bellying at the base; as long as the cup, and containing honey. Honey-cup a flat, upright gland; rising from the receptacle; situated between the chives and the uppermost petal.

CHIVES. Threads 11 to 15; short. Tips blunt; upright; as long as the blossom.

POINT. Seed-bud bellying; ending in some very short Shafts. Summits simple.

S. VESS. Capsule bellying; angular; tapering to the shafts; with 1 cell; opening between the shafts.

SEEDS many; kidney-shaped; fixed to the angles of the capsule.

ESS. CHAR. Empalement of 1 leaf; divided. Petals jagged. Capsule of 1 cell; opening with a mouth.

OBS. There is hardly any genus so difficult to characterise as this; the different species varying so much both in figure and number. The essential character consists in the petals with 3 clefts, 1 petal bearing the honey-cup in its base, and the capsules not closed, but always gaping open. In the 1st species, the cup has 4 divisions, the petals are 3; the uppermost, inclosing the honey-cup, has 6 shallow clefts. The lateral and opposite petals have 3 clefts; and there are sometimes 2 other very small and entire petals. Shafts 3. Chives many.

dyer's RESE'DA *Lute'ola*. Leaves spear-shaped, entire, with a tooth on each side the base. Empal. with 4 clefts.—

Sheldr. 93.—Trag. 362, leaves the best; cop. in Lonic. i. 155. 4.

—Ger. 398. 1.—Matth. 1307, cop. in Dod. 80, which repr. in Lob. obs. 190. 3, Ger. em. 494, and cop. in Park. 603. 1, and Pet. 38. 12.—Blackw. 283.—J. B. iii. 465. 2.

The

The *teeth* at the base of the leaves glandular. *Flowers* in a nodding spike, which follows the course of the sun through the day; pointing towards the East in the morning, to the South at noon, and Westward in the afternoon: in the night it points to the North. These circumstances take place even in a cloudy sky. LINN.—*Upper leaves* strap-shaped. MR. WOODW.—*Stems* cylindrical, hollow, furrowed. *Leaves* strap-spear-shaped, with a very minute reddish tooth on each side of the base. *Floral-leaves*, 1 at the base of each flower. *Empal.* segments 4, spear-shaped, the 2 upper wide asunder. *Petals* 3, the upper hand-shaped, with 4 divisions; the 2 lateral ones oblong, sometimes cloven. *Honey-cup* broad, somewhat hollowed on the outer side at the base, which is covered by a thin concave lid, formed by an expansion of the claw of the upper petal. *Chives* 20 to 30, or more. *Seed-bud* pyramidal, 3-sided, corners blunt. *Stalks* none. *Summits* 3. *Capsule* with 3 valves, rolled inwards so as to enfold the seeds. WITH.

Will Wead. *Dyers-weed.* *Yellow-weed.* [*Welds.* *Woulds.* *Weld.* ST.]

Meadows, pastures, walls, and barren uncultivated spots. [Coal-pit banks in Staffordshire and Shropshire, and about the ruins of Dudley Castle. WITH.] A. June. [and July. WITH.]

This plant affords a most beautiful yellow dye for cotton, woollen, mohair, silk, and linen, and is that which is most commonly used by the dyers for that purpose, as it gives the brightest dye. Blue cloths dipped in a decoction of it become green. The yellow colour of the paint, called Dutch Pink, is got from this plant. The tinging quality resides in the stems and roots, and it is cultivated in sandy soils, rich soil making the stalk hollow and not so good.

Cattle will not eat it, but Sheep sometimes browse it a little.

RESE'DA *lu'tea*. All the leaves with 3 clefts; the *Rocket* lower winged.—

Jacq. austr. iv. 353.—Ger. 216. 1.—Lob. adv. 76, repr. in Ger. em. 277. 1, and cop. in Park. 323. 2, and Pet. 38. 11.—J. B. iii. 467.

Leaves generally waved. LINN.—*Leaves*, mid-rib broad; wings in pairs. HUDS.—*Empal.* segments 6, strap-shaped, the uppermost the smallest. *Petals* 6. *Chives* to 20. *Capsule* red. *Seeds* fixed to one corner, generally 10, flattened, nearly egg-shaped. RELH.—*Leaves* more properly wing-cleft, the wings running down the mid-rib, tapering down to the pair of leaflets next below; the terminating leaflet in the lower-leaves often inversely egg-shaped, and the lateral ones oblong and narrower. Ger. 216. 1, is an excellent figure of it in this state. *Blossoms* straw-coloured. ST.

Base

Base Rocket.—Cornfields, meadows, and pastures, especially in a calcareous soil, as chalk, &c. sometimes on walls. [Bungay, Suffolk, frequent. Mr. WOODW.—Surrey. ST.] A. June.—Aug.

β. *Bocc. pl. var.* 41. 3. at p. 76.—*Pluk.* 55. 4.

Barren closes about Roe-hill and Northfleet.

665. EUPHOR'BIA. Spurge.

EMPAL. *Cup* 1 leaf; permanent; somewhat coloured; distended; *mouth* with 4 (and in a few species with 5) teeth.

BLOSS. *Petals* 4, (in a few species 5;) turban-shaped; bellying; thick; lopped; irregularly situated; alternating with the teeth of the cup, and fixed by their claws to its edge; permanent.

CHIVES. *Threads* many; (12 or more;) thread-shaped; jointed; standing on the receptacle; longer than the blossom; appearing at different times. *Tips* double; roundish.

POINT. *Seed-bud* roundish; 3-cornered, standing on a little fruit-stalk. *Shafts* 3; cloven. *Summits* blunt.

S. VESS. *Capsule* roundish; consisting of 3 berries, and 3 cells; opening with a spring.

SEEDS solitary; roundish.

ESS. CHAR. *Blossom* of 4 or 5 petals; fixed to the empal. *Empalement* of 1 leaf; distended. *Capsule* 3-berried.

Obs. The capsule is either smooth, hairy, or warty. In some species the 1st flowers have chives, but no pointals.

* Forked. (*Rundle* cloven, or none.)

purple EUPHOR'BIA *Pe'plis*. Forked. Leaves very entire, half-heart-shaped. Flowers solitary, from the bosom of the leaves. Stems trailing.—

Clus. ii. 187. 2, repr. in *Lob. obs.* 197. 3, *Ger. em.* 503. 20, and cop. in *H. ox.* x. 2. 18, and *Pet.* 53. 12.—*Matth.* 1260.—*Ger.* 406. 16.—*Park.* 194. 7.

Stem and *leaves* generally red. *Root* long, slender, fibrous. *Stem* forked immediately from the root. *Branches* trailing, forked, of irregular lengths, frequently purple. *Flowers* on fruit-stalks. *Capsules* smooth, tipped with purple. Mr. WOODWARD.

Sandy sea shores. Between Penfans and Marketjeu, Cornwall and Exmouth, Devonshire.

A. July. Aug.

** *Rundle*

** Rundle with 3 divisions.

EUPHOR'BIA *Pe'plus*. Rundles with 3 divisions; *petty* (above) forked. Fencelets egg-shaped. Leaves very entire, inversely egg-shaped, on leaf-stalks.—

Curt. i. 6.—Dod. 375. 2, repr. in Lob. obs. 197. 2, Ger. em. 503.

19, cop. in Park. 194. 6, H. ox. x. 2. 11, and Pet. 53. 11.—

Ger. 406. 15.—Walc.—(Fuchf. 603, cop. in J. B. iii. 669.

2, and Lonic. i. 99. 1, is *E. falcata*, and Matth. 1261, *E.*

Chamæfyce.)

Leaves alternate. Fences egg-shaped. All the flowers fertile.

Petals with 2 horns. Fruit smooth, or only rough at the edge. LINN.

—Blossoms yellowish green.

Rich cultivated soil.

A. July. Aug.

A Horse refused it. ST.

EUPHOR'BIA *exigua*. Rundle with 3 divisions; *dwarf* (above) forked. Fencelets spear-shaped. Leaves strap-shaped. LINN.—Rundle sometimes with 4 and 5 divisions. WIGG. CURT. RELH. MR. WOODWARD.

Trag. 296.—Curt. iv. 41.—Fl. dan. 592, but the 2 prickles at the

end of the leaves are surely an addition of the engraver's.—Ger.

503. 17, cop. in Park. 193. 5, Pet. 53. 6, and abridged in H.

ox. x. 2. 5.—(Matth. 1256, is a different species.)

No lateral branches. Petals 4, crescent-shaped. Leaves of the

fence and fencelets not broader than those of the stem. Fruit smooth.

LINN.—Fencelets heart-shaped at the base. WIGG. ST.—And not

unfrequently with a prominent pointed tooth on one side. ST.—

Sometimes a few simple branches from near the root. RETZ. ST.

—Tho' those Linnæus would probably consider as barren stems.

ST.—Leaves strap-shaped, those of the fence and fencelets broader

than the rest. MR. WOODWARD. ST. WITH.—Stem frequently

single, upright, but often, particularly in autumn, numerous

ones trailing arise from the root, with sometimes a few lateral

branches below the rundle. MR. WOODWARD.—Spokes of the run-

dle sometimes 4, and sometimes forked as often as 6 times. Fence

sometimes of 4 leaves, sitting, bent back, more or less tapering to

the point. Fencelets of 2 leaves, sitting, hollowed out on one side.

Petals fleshy, glandular. WITH. ST.—Threads 5 to 9, swelling out

into a globular form close under the tips. Tips falling off. Sum-

mits 6. WITH.

E. exigua acuta. LINN.—Leaves pointed. RAY.—In some native

specimens the leaves are bluntly pointed, but I have never seen a

native one of the *E. exigua retusa*. ST.

Corn

Corn fields.

A. July. [to Sept. WITH.]

β. Rundle with 5 spokes. RELH.

Euphorbia fegetalis. MART. cat. (MR. WOODWARD. ST.)

*** Rundle with 5 divisions.

Euphorbia exigua, and *amygdaloides*. (ST.)

portland EUPHORBIA portlan'dica. Rundle with 5 divisions; (above) forked. Fencelets somewhat heart-shaped, concave. Leaves strap-spear-shaped, smooth, expanding.

Ray 24. 6. at p. 479.

Stems rather shrubby, a hand's breadth high, smooth, cylindrical, red during the winter. Leaves alternate, nearly sitting, with a sharp point at the end, red underneath at the base. Little branches from the side, from the bosom of the leaves; the lower barren, but at length growing out and resembling the stem. Rundles terminating, divisions and sub-divisions expanding. Fence similar to the leaves. Fencelets sharp-pointed. Flowers nearly sitting, yellow, the 1st and 2d with only chives, and petals very blunt and without horns; the rest with chives and pointals, and horned. Fruit smooth, but the corners rough with sharp points. LINN.—In plants that have been injured the stems trailing. Rundle with only 3 and 4 divisions; leaves of the fence strap-shaped, larger than the other leaves; and the stem-leaves spear or spear-egg-shaped. Central florets: Empalement with 5 sides and 5 blunt corners, with 5 slight clefts; segments more or less toothed at the end. Petals hairy on the inner side. Chives 8 or 9. Seed-bud nearly sitting. Lateral florets: Empal. segments 4. Petals 4. Chives 14 or more. Threads surrounded at the top with a ring. In all at the base of the flower are several flat, slender, skinny, woolly substances, cloven at the end. WITH.—Leaves, fences, and fencelets terminated by a sharp point. Leaves wedge-oblong, keeled, smooth, but not shining. Fence, leaves inversely egg-shaped, or inversely egg-oblong. Fencelets rhomb-heart-shaped. ST.

Sandy sea shores. On the neck of land joining Portland to Devonshire. Near Exmouth, Devonshire, and near Caernarvon. [Cornwall. HUDS. MR. WATT.] A. July. Aug.

sea EUPHORBIA Para'llias. Rundle with generally 5 divisions; (above) cloven. Fencelets heart-kidney-shaped. Leaves tiled upwards. LINN.—when cultivated open. ST.

Jacq. hort. 188.—Dod. 370. 1, repr. in Ger. em. 493. 1, and cop. in H. ox. x. i. 24.—Park. 184, cop. in Pet. 53. 8.—Ger. 401. 1.—Matth. 1252, not in flower.—Dod. 370. 2, as cultivated in a garden.

Petals

Petals entire. *Plant* sea-green. LINN.—*Leaves* very entire, somewhat pointed. JACQ.—*Stems* numerous, ascending, thickly tiled, lower part generally red. *Leaves* smooth, fleshy, pointing upwards, gradually increasing in size from below; the lower ones strap, strap-spear-shaped, or oblong, sitting; the upper ones oval-spear-shaped, half embracing the stem. *Fence*, leaves 5, heart-shaped. *Fruit* very large, smooth. MR. WOODW.—*Stem* upright. *Stem-leaves* strap-spear-shaped, smooth, whitish green. *Fence*, leaves spear-shaped. *Capsules* rough. WITH.—*Plant* quite smooth. *Leaves* veinless underneath, the mid-rib just perceptible, shining and convex, the edges turned in and upwards. ST.

Sea shores. [Between Southwold and Dunwich, Suffolk. MR. WOODWARD.—Cornwall. MR. WATT.] P. July. Aug.

EUPHORBIA *helioscopia*. Rundle with 5 divisions; (next) with 3; (above) forked. Fencelets inversely egg-shaped. Leaves wedge-shaped, ferrated.— sun

Curt. i. 12, *habit the best*.—Walc.—Lob. obs. 192. 2, repr. in Ger. em. 493. 2, and cop. in Park. 189, and H. ox. x. 2. 9, *leaves the best*.—Fl. dan. 725.—Fuchs. 811, cop. in Trag. 294, and J. B. iii. 669. 1.—Ger. 401. 2, cop. in Pet. 53. 10.—Lonic. i. 93. 1.—Matth. 1253, but *ferratures of the leaves not expressed*.

Leaves alternate. Spokes of the rundle twice divided into 3, (above) forked. *Fence*, leaves 5, similar to those of the stem. Fencelets of 3 leaves; at the forks 2 leaves. *Petals* 4, entire. All the flowers with chives and pointals. *Fruit* smooth. LINN.—*Leaves* not ferrated towards the base. Fencelets, leaves unequal. MR. WOODWARD.—*Seeds* rough. ST.—I am tempted to describe the flowers thus: *Empal*. o. Blossom 1 petal, with 4 or 5 shallow fringed clefts bending inwards. Honey-cups 4, oval, flattened, green, on short pedicles, fixed to the outside of the clefts of the blossom. Threads 14. Seed-bud when it has risen above the mouth of the blossom leaning to one side. Summits 6. WITH.—*Empalement* greenish yellow; segments yellow. *Petals* horizontal, transversely elliptical, yellowish green. ST.

Wart-wort. Churn-staff. [Cats-milk. ST.]

Cultivated places, gardens, [corn fields. ST.] A. July. Aug.

If Sheep eat it they are purged by it, and their flesh gets a bad taste; but this is not the case with Cows.

A Horse refused it. ST.

EUPHORBIA *verruco'sa*. Rundle with 5 divisions; warty (next) with generally 3, and (lastly) 2. Fencelets egg-shaped. Leaves spear-shaped, ferrated, woolly. Capsules warty.

warty. LINN.—Leaves elliptical. Capsules rough all over. HALL. ST.

J. B. iii. 673. 1, *cop. in H. ox. x. 3. 3, and Pet. 53. 6.*

Stems cylindrical, reclining. Fruit woolly. Petals entire. Leaves narrow spear-shaped, finely ferrated, bent back. Branches which bear flowers, from the bosom of the leaves, forked. Rundle open, extending above the stem. Fence, leaves 5, spear-shaped, imperfectly ferrated. Spokes of the rundle with 3 divisions, next forked, and at length the flowers alternate. Fencelets nearly egg-shaped, very entire. Flowers of the first, second, and third rank abortive. Petals 4, entire, yellow. Fruit woolly. LINN.—Root simple. Stem upright, simple, cylindrical, reddish, 9 inches high. Leaves alternate, sitting, oblong, pointed, smooth, somewhat heart-shaped and narrower at the base, about the middle of the stem bent back. Rundle, spokes sometimes 4, (above) forked. Fence spear-shaped, ferrated. Fencelet heart-shaped, pointed, smooth. Petals blunt, yellow. Seed-bud on a fruit-stalk, upright, globular, warty. LYONS.—Leaves and fence when young somewhat hairy, but when full grown become bald. Fruit, have never seen it woolly. HALL. ST.—Stem generally branched. Rundle in one plant with only 3 divisions; sometimes a single lateral branch from the spokes of the rundle. Seeds smooth, glossy. ST.

Corn fields. Essex, and near York.

B. Aug.

broad-leaved EUPHORBIA *platyphyll'los*. Rundle with 5 divisions; (next) 3; (at last) forked. Fencelets hairy along the keel. Leaves ferrated, spear-shaped. Capsules warty. LINN.—Capsules with lines free from rough points. HALL. ST.

Fuchs. 813, *cop. in J. B. iii. C70, and cop. in H. ox. x. 3. row 2. 1, rundles not fully expanded.*

Upper part of the plant greenish yellow. Stem upright, a foot high, smooth. Leaves alternate, distant, expanding, smooth, finely ferrated, nearly embracing the stem, with scattered hairs along the keel; the lower almost on leaf-stalks, broader towards the end; the upper nicked at the base, and above the base bent down at the sides. Fence spear-shaped. Fencelets egg-oblong; the rest egg-heart-shaped, all finely ferrated. Petals entire, nearly circular, yellow. Seed-buds obscurely warty. Rundlets with 3 divisions from the bosom of the leaves. LINN.—Fencelets heart-shaped. HALL. Mr. WOODWARD. ST.—Fruit, a semi-circle on the convex part of each cell, free from rough points. HALL. ST.—Stem with a few short branches. Leaves nearly entire at the base. Mr. WOODW.—Leaves tapering towards the base, broader upwards, but acutely pointed

pointed at the end. Flowering branches from the sides of the stem below the rundle. The leaves and fruit afford the only sure marks of distinction between this and *E. verrucosa*. ST.

Corn fields. Black Notley, Essex. Between Harefield Common and Battle's-well. Near Northfleet. [Ripton, Huntingdonshire. Mr. WOODWARD.—Isle of Wight. ST.] A. July. Aug.

β. Leaves nearly entire, only at the base very finely serrated. HUDS.

Long-leaved Corn Spurge. *R. syn.* 312. 5. Dillenius asserts it to have been *E. platyphyllos*. ST.

In the corn about Kingston and Comberton, Cambridgeshire.

A. RAY.

*** Rundles with many divisions.

EUPHOR'BIA *hyber'na*. Rundles with 6 divisions; knotty-rooted (above) forked. Fencelets oval. Leaves very entire. Branches none. Capsules warty.—

Dill. elth. 290. 374.—*Clus.* ii. 190. 1, repr. in *Dod.* 372. 2, *Lob. obs.* 196. 2, *Ger. em.* 500. 12, and cop. in *Park.* 188. 11, and *Pet.* 53. 7, and with additions in *H. ox.* x. 2.

Leaves oblong, sometimes hairy, sometimes smooth. Fruit very warty. LINN.—Rundle sometimes with only 5 divisions. Sometimes 2 or 3 short branches from the bosoms of the leaves. ST.

Makinboy.

Corn fields, near Twitenham Park against Richmond; and near Otterspool; and between Feversham and Sittingborn, Kent; also in Ireland. P. August.

EUPHOR'BIA *Amygdaloides*. Rundle with many wood divisions; (above) forked. Fencelets perforated, circular. Leaves blunt. LINN.—Rundle with generally 5 divisions. ST.

Walc.—*J. B.* iii. 671, referred to by Ray, is undoubtedly our Wood Spurge, and accords with the Linnæan character of *E. amygdaloides*, though given by Linnæus to *E. sylvatica*.—*Park.* 186. 1, or the 3d figure from the left hand margin.—*Dod.* 368. 1, repr. in *Lob. obs.* 195, and *Ger. em.* 500. 9, and *Ger.* 403. 8, and also *Ger.* 403. 9, have the upper fencelets pointed.

Leaves alternate, remote, thin, not leather-like and stiff. Stem herbaceous, not woody. Some lateral rundles. Differs from *E. sylvatica* in its circular fencelets. In *E. sylvatica* they are extended to a point. LINN.—Stem and leaves slightly downy. Shafts deeply cloven. Mr. WOODWARD. ST.—Branches and spokes of the rundle very long. Petals when decaying acquire a purplish hue, and occasion

occasion it to be sometimes mistaken for *E. Characias*. Mr. Woodward.—*Stem* purple. *Stem-leaves* spear-shaped, very entire, broader upwards, both blunt and pointed, tapering down into leaf-stalks, scattered; *flower-leaves* inversely egg-oblong, and inversely egg-shaped, with a short point at the end. The flowering part of the stem during flowering grows to more than twice its original length. *Lateral flowering branches* numerous, twice forked. *Fence*, leaves 5, roundish-inversely-egg-shaped. *Fencelets* circular or elliptical, cloven half way down on each side, and rounded at each extremity with a small point just perceptible to the naked eye. *Petals* crescent-shaped, yellow. *Root-leaves* downy underneath. *St.*

Woods and hedges, [in a clayey soil, frequent. Mr. Woodward. *St.*]

red EUPHORBIA *Characias*. Rundle with many divisions; (above) cloven. Fencelets perforated, nicked. Leaves very entire. Stem shrubby.—

Jacq. ic. pl. var. fasc. 4.—*Riv. tetr. 227*, *Esula caule crasso*, is an excellent figure of what I consider as *E. Characias*. *Linnaeus*, indeed, refers it to *E. sylvatica*, but the fencelets are nicked on the sides, and rounded at the ends, as in *E. Characias*, and not somewhat heart-shaped and pointed as in *E. sylvatica*.—*Clus. ii. 188. 1*, repr. in *Dod. 368. 2*, *Lob. obs. 194. 2*, *Ger. em. 499. 3*, and cop. in *Park. 186. f. 2d*, from the left hand margin, and *J. B. iii. 672*, though quoted by *Ray* and *Linnaeus*, surely accords, in the shape of the fencelets, with the character of *E. sylvatica*.—*Matth. 1250*, branches of the rundle too spreading, and too frequently sub-divided.—(*Walc. is E. amygdaloides.*)

Stems 4 feet high, shrubby, simple, thick, somewhat woolly, thickening upwards, reddish, rough below, with transverse scars from the fallen leaves. *Leaves* spear-shaped, leather-like, somewhat downy, bent back. *Fruit-stalks* downy. *Rundle* small, crowded, terminating, sitting; *spokes* numerous, dividing into 2 only once. *General fence*, leaves several, somewhat spear-shaped, small, bent back. *Fencelets* cloven half way down. *Petals* 4, crescent-shaped, purple. *Seed-buds* woolly. *LINN. ST.*—*Leaves* green, with an elevated rib on each side, towards the flowers becoming broader and blunter. *Flowers* small, those within the first fencelets with only chives, the rest with chives and pointals. *Petals* in all moist. *LINN.*—*Whole plant* very woolly. *Lateral branches* from the upper part of the stem numerous, equal in length to the rundle. *Stem-leaves* closely tiled. *Floral-leaves* bent back. *Rundle*, spokes short. *Petals* not crescent-shaped. *Shaft* scarcely cloven. Mr. Woodward. *St.*

Woods

Woods and hedges, but rare. Paper-mill Pool Dam, in Heywood Park, Staffordshire. *Plot.* — [I have searched for it, but without success. My specimens from the garden of the late Dr. Fothergill. *St.* — Said to have been found in Needwood Forest. My specimens from the Oxford Physic Garden. Mr. Woodw.]

S. June.

The powdered leaves, in doses of 15 to 25 grains, operate as a purge. The juice of every species of Spurge is so acrid, that it corrodes and ulcerates the body wherever it is applied; so that physicians have seldom ventured to use it internally. Warts or corns anointed with the juice presently disappear. A drop of it put into the hollow of a decayed and aching tooth, destroys the nerve, and consequently removes the pain. Some people rub it behind the ears, that it may blister, and by that means give relief.

Order VII.

DODECAGYNIA; XII. POINTALS.

667. SEMPERVIVUM. House-leek.

EMPAL. Cup from 6 to 12 divisions; concave; sharp; permanent.

BLOSS. Petals 6 to 12; oblong; spear-shaped; sharp; concave; a little larger than the cup.

CHIVES. Threads 6 to 12; awl-shaped; slender. Tips roundish.

POINT. Seed-buds 6 to 12; placed in a circle; upright; each ending in a Shaft; expanding. Summits sharp.

S. VESS. Capsules 6 to 12; oblong; compressed; short; placed in a circle; tapering outwards; opening on the inner side.

SEEDS many; roundish; small.

Ess. CHAR. Empalement with 12 divisions. Petals 12. Capsules 12; with many seeds.

Obs. When in a luxuriant growth, the numbers often increase, especially the number of the pointals. Nearly allied to Sedum, but differs in always having more than 5 petals.

common SEMPERVIVUM *tecto'rum*. Leaves fringed.
Off-sets expanding.—

Fl. dan. 601.—*Mill. ill.*—*Sheldr.* 59, *root-leaves the best.*—*Trag.* 376.—*Fuchf.* 32, *cop. in J. B.* iii. 687.—*Blackw.* 366, *only root-leaves, off-set, and flowers.*—*Clus.* ii. 63. 2.—*Matth.* 1117, *cop. in Dod.* 127. 2, *repr. in Ger. em.* 510. 1, and *cop. in Park.* 731. 3, *Ger.* 411, and *H. ox.* xii. 7. 41.

Flowering branches bowed back. *Blossoms* pale red. ST.—*Leaves* fleshy. *Empalement* not half as long as the blossom; *teeth* 11 or 12. *Petals* 12, smooth within, fringed with pellucid hairs at the edges, and on the outside. *Chives* 6 to 25. *Threads* red. *Dust* yellow. *Pointals* 12, placed in an oval or triangular form. WITH.

Cyphel.

Roofs and old walls.

P. July.

The juice, either applied by itself, or mixed with cream, gives present relief in burns, and other external inflammations. Mixed with honey, it is a useful application in apthous cases.

Sheep and Goats eat it.

Class XII.

I C O S A N D R I A.

XX. C H I V E S.

THIS is called the Class of 20 *Chives*, because, in most of the plants it contains, the number of Chives is generally about 20; nevertheless, the classic character is not to be taken from the number of Chives only, but, from the following circumstances, which will sufficiently distinguish it, both from the preceding, and from the ensuing Class:

1. CUP consisting of 1 concave leaf.
2. PETALS fixed by the claws to the *sides* of the cup.
3. CHIVES more than 19; standing upon the *sides* of the cup, or upon the blossom, but *not* upon the receptacle.

Hardly any of the plants of this Class are poisonous. The fruits are mostly pulpy and esculent.

*Order I.**MONOGYNIA; I. POINTAL.*

675. PRU'NUS. Cup beneath ; with 5 clefts. *Bloss.*
5 petals. *Seed-vessel* pulpy, in-
cluding an entire stone.

† Cratægus Oxyacantha.

*Order II.**DIGYNIA; II. POINTALS.*

678. CRATÆ'GUS. Cup superior, with 5 clefts. *Bloss.*
5 petals. *Berry* with 2 feeds.

† Prunus infititia.

*Order III.**TRIGYNIA; III. POINTALS.*

679. SOR'BUS. Cup superior, with 5 clefts. *Bloss.*
5 petals. *Berry* with 3 feeds.

*Order IV.**PENTAGYNIA; V. POINTALS.*

681. MES'PILUS. Cup superior, with 5 clefts. *Bloss.*
5 petals. *Berry* with 5 feeds.
682. PY'RUS. Cup superior, with 5 clefts. *Bloss.*
5 petals. *Fruit* an *Apple*, with
5 cells and many feeds.

SPIRÆ'A.

686. SPIRÆ'A. Cup beneath, with 5 clefts. *Bloss.* 5 petals. *Capsules* many, collected into a ball.

Order V.

POLYGYNIA; MANY POINTALS.

687. RO'SA. Cup 5 clefts. *Bloss.* 5 petals. Cup forming a berry, with many seeds.
688. RU'BUS. Cup 5 clefts. *Blossoms* 5 petals. Berry compound.
691. TORMENTIL'LA. Cup 8 clefts. *Bloss.* 4 petals. *Seeds* 8; without awns.
693. DRY'AS. Cup 8 clefts. *Bloss.* 8 petals. *Seeds* many, with downy awns.
689. FRAGA'RIA. Cup 10 clefts. *Bloss.* 5 petals. *Seeds* many, deciduous, situated upon a receptacle resembling a berry.
690. POTENTIL'LA. Cup 10 clefts. *Bloss.* 5 petals. *Seeds* many, without awns.
692. GE'UM. Cup 10 clefts. *Bloss.* 5 petals. *Seeds* many, with a jointed awn.
694. CO'MARUM. Cup 10 clefts. *Bloss.* 5 petals. *Seeds* many, permanent, upon a fleshy receptacle.

† Spiræa. Sempervivum tectorum.

Order I.

MONOGYNIA; I. POINTAL.

675. PRUNUS. Plumb.

EMPAL. Cup 1 leaf; bell-shaped; with 5 clefts; deciduous; segments blunt; concave.

BLOSS. Petals 5; circular; concave; large; expanding; fixed to the cup by claws.

CHIVES. Threads 20 to 30; awl-shaped; nearly as long as the blossom; standing on the cup. Tips double; short.

POINT. Seed-bud roundish. Shaft thread-shaped; as long as the chives. Summit circular.

S. VESS. nearly globular; pulpy; including a nut or stone.

SEED a Nut; somewhat globular; but depressed.

ESS. CHAR. Empalement with 5 clefts; beneath. Petals 5. Nut of the Stone-fruit with prominent sutures.

OBS. The inside of the cup, in most of the species, is covered with a number of small glands, which make an appearance like a hoar-frost. ST.—In *P. infititia* there are sometimes 2 pointals. WITH.

Bird-cherry PRUNUS *Palus*. Flowers in bunches. Leaves deciduous, with 2 glands at the base on the under side.—

Fl. dan. 205.—Ger. 1322. 9.—Dod. 777. 1, repr. in Ger. cm.

1504. 9.—J. B. i. a. 228, leaves represented as fringed.—Lob.

obs. 593. 2, cop. in Park. 1517. 3.

Bunches leafy, from below the leaves. Petals serrated, not nicked as in *P. Cerasus*. LINN.—Empalement finely serrated, within at the bottom beset with numerous woolly hairs. Petals finely serrated. Chives 25. WITH.

Bird's Cherry. Wild Cluster Cherry.

Woods and hedges in the northern counties. In a lane between Temple Mills and Epping Forest. [About Ingleborough, Yorksh. CURT.—Woods in Norfolk, common. Mr. WOODW.] S. May.

It grows well in woods, groves, or fields, but not in a moist soil. It bears lopping, and suffers the grass to grow under it. The fruit is nauseous; but bruised, and infused in wine or brandy, it gives it an agreeable flavour. A strong decoction of the bark is used

used by the Finlanders to cure venereal complaints; and a decoction of the berries is sometimes given with success in the dysentery. The wood being smooth and tough is made into handles for knives and whips.

Sheep, Goats, and Swine eat it. Cows are not fond of it. Horses refuse it.

P R U'N U S *Cer'afus*.* Rundles mostly on short *Cherry* fruit-stalks. Leaves egg-spear-shaped, smooth, doubled together.—

Sheldr. 54. 1 and 6.—*Hunt. eval.* 188.—*Blackw.* 449.—*Math.* 233, and 235.—*Dod.* 808. 1, repr. in *Ger.* 1502. 1.—*Ger.* 1319. 1.—*Fuchf.* 425, cop. in *J. B. i. a.* 220.—*Trag.* 1026.—*Lonic.* i. 13. 2.

Leaf-scales toothed. *Floral-leaves* with 3 clefts, serrated; the intermediate one leafy. The terminating *buds* producing leaves, the lateral ones flowers, which are from the last year's shoots. *Blossoms* white. *Fruit* red. LINN.

Common Wild Cherry-tree.

Woods and hedges, not uncommon; but probably from the stones of the garden varieties dropped by birds. RAY.—[In Hertfordshire, growing to a large size. Mr. WOODW.] T. May.

It loves a sandy soil, and an elevated situation. The gum that exudes from this tree is equal to gum arabic. Hasselquist relates, that more than 100 men, during a siege, were kept alive for near two months, without any other sustenance than a little of this gum taken into the mouth sometimes, and suffered gradually to dissolve. The common people eat the fruit either fresh or dried; and it is frequently infused in brandy for the sake of its flavour. The wood is hard and tough. It is used by the turner, and is formed into chairs, and stained to imitate mahogany. This tree is the original stock from which many of the cultivated kinds are derived. LINN.

A Horse refused it. ST.

P R U'N U S *a'vium*. Rundles fitting. Leaves egg-spear-shaped, downy underneath, doubled together.— *Mazzard*

* *P. Cerasus*. Rundles mostly on fruit-stalks. Leaves egg-spear-shaped, doubled to. HUDS.

α. *P. Cerasus*. LINN. which see.

β. *Least Wild Heart Cherry-tree*. R. syn. 463. 3.

γ. *P. avium*. LINN. which see.

Ludw. 108.—*Blackw.* 425.—*Sheldr.* 54. 5, fruit.—*Ger.* 1323. 11.
Leaf-stalks with 1 or 2 glands towards the end. *Rundle* sitting,
 with 3 flowers. *Flowers* on fruit-stalks, from the shoots of the
 last year but one. *Fence* of 4 leaves. LINN.—Two red glands at
 the base of each leaf. MR. BALLARD. ST.

Black Cherry-tree. Mazzards.

Hedges in Suffolk. RAY.—[Herts. Mr. WOODW.] T. May.

It grows best in a rich soil on the sides of hills, unmixed with
 other trees. It bears cropping, and suffers the grafs to grow under
 it. WITH.—In Hertfordshire there is a cultivated variety, called
Carrous, which are larger, and much finer flavoured than the com-
 mon sort. MR. WOODWARD.

common PRUNUS *domestica*. Fruit-stalks mostly solitary.
 Leaves spear-egg-shaped, coiled. Branches without
 thorns. LINN. ST. in *Bot. Arr. ed. i.*

Park. 1512. 1.—*Ger.* 1311. 1.—*Matth.* 265.—*Lonic.* i. 52. 1.—

Fuchf. 403, cop. in *Trag.* 1019.—*Dod.* 805, repr. in *Lob. obs.*
 595. 2, *Ger. em.* 1497. 1.

Leaves, when expanding from the bud, coiled. *Flowering buds*
 producing no leaves. LINN.—*Empal.* segments bent downwards;
 beset on the inside with a number of glandular hairs. *Petals* ob-
 long-egg-shaped, flat. Corresponds in all respects with the culti-
 vated varieties, except, that in those, the petals are more perfectly
 egg-shaped, and the flowers more constantly in pairs. ST.—*Em-
 palement* sometimes cloven into 6. *Shaft* crooked towards the top.
 WITH.

Prunus communis domestica. HUDS.

Plumb-tree.

Hedges, [probably from the fruit of the cultivated varieties
 accidentally dropped there. ST.] T. April.

It loves a lofty exposure, and is favourable to pasturage. The
 varieties have probably originated from the red and white culti-
 vated plumb, either sown by design or accident. The cultivated
 garden plumbs are derived from this species. The bark dyes
 yellow.

A Horse eat the leaves. Affes are fond of them. ST,
 damson β. *Blackw.* 305.—*Ger.* 1312. 4.

Bullace PRUNUS *insititia*. Fruit-stalks in pairs. Leaves
 egg-shaped, slightly woolly, coiled. Branches running
 into thorns.—

(*Blackw.* 305, is a variety of *P. domestica*.)

As large as *P. domestica*. Branches reddish brown, smooth, some of them terminating in a thorn. Props narrow, fringed, sharp, cloven at the base. Upper surface of the leaves smooth. Cups smooth. LINN.—Fruit black and wax-coloured. RELH.—Empal. segments horizontal, rounded at the end, beset on the inside with glandular hairs. Petals round-heart-shaped, white. Fruit black. ST.—Props cloven down to the base. Empal. the outer skin may be pulled off, adhering to the fruit-stalk, appearing like an outer cup. Blofs. larger than that of *P. domestica*. Shaft straight. WITH.

Black Bullace-tree.—Hedges.

T. April.

The fruit is acid, but so tempered, by a sweetness and roughness, as not to be unpleasant, particularly after it is mellowed by the frosts. A conserve is prepared, by mixing the pulp with thrice its weight of sugar. The bark of the roots and branches is considerably styptic. An infusion of the flowers, sweetened with sugar, is a mild purgative, not improper for children.

PRU'NUS *spinosa*. Fruit-stalks solitary. Leaves Sloe spear-shaped, smooth. Branches thorny.—

Sheldr. 73.—Fuchf. 404, cop. in Trag. 1016, and J. B. i. a. 193, and Lonic. i. 51.—Blackw. 494, good, except that the leaves are oblong-egg-shaped, instead of inversely egg-spear-shaped.—Matth. 266.—Dod. 753. 2, repr. in Lob. obs. 595. 1, Ger. em. 1497. 5, and cop. in Park. 1033.—Ger. 1313, 2 in flower, 1 in fruit.

Leaves spear-egg-shaped, serrated; serratures terminated by an excretory duct, the terminating one blunter and shorter. Leaf-scales strap-shaped, between serrated and toothed; the points of the teeth as if dead. LINN.—Shafts sometimes 2. ST.

Black-thorn. Sloe-tree. [Scrogs. WITH.—The fruit called Sloes, and by the country people Slons. ST.]

Hedges.

T. March. April.

This is not well adapted to grow in hedges, because it spreads its roots wide, and encroaches upon the pasturage; but it makes good dead fence. The wood is hard and tough, and is formed into teeth for rakes, and walking sticks. The thorns have something of a poisonous nature in the autumn. The tender leaves dried, are sometimes used as a substitute for tea, and is, I believe, the best substitute that has yet been tried. The fruit bruised, and put into wine, gives it a beautiful red colour, and a pleasant sub-acid roughness. An infusion of a handful of the flowers is a safe and easy purge. The bark powdered, in doses of 2 drams, will cure some agues. Letters written upon linen or woollen, with the juice of the fruit, will not wash out.

Sheep, Goats, and Horses eat it.

The

The different species furnish nourishment to the *PAPILIO* *Cratægi*, *Polychloros*, and *Betulæ*; *PHALÆNA quercifolia*, *quercus*, *lanestris*, *cæruleocephala*, *pavonia*, *neustria*, *Oxyacanthæ*, *Citrago*, *prunaria*, and *brumata*; *APHIS padi*; *CURCULIO cerasi*, and *Pruni*; and *SCARABÆUS horticola*.

Order II.

DIGYNIA; II. POINTALS.

678. CRATÆ'GUS. Hawthorn.

EMPAL. Cup 1 leaf; concave; expanding; with 5 teeth; permanent.

BLOSS. Petals 5; circular; concave; sitting; fixed to the cup.

CHIVES. Threads 20; awl-shaped; fixed to the cup. Tips roundish.

POINT. Seed-bud beneath. Shafts 2; thread-shaped; upright. Summits knobbed.

S. VESS. Berry fleshy; nearly globular; dimpled.

SEEDS 2; rather oblong; separate; glistly.

ESS. CHAR. Empalement with 5 clefts. Petals 5. Berry beneath; with 2 seeds.

Obs. The number of pointals variable. REICH.

Whitebeam CRATÆ'GUS *A'ria*. Leaves egg-shaped, cut, serrated, cottony underneath.—

Fl. dan 302.—*Crantz*. ii. 2. 2.—*Mill. ill.*—*Hunt. evcl.* 181.—*J.*

B. i. a. 65.—*Lob. adv.* 435. 1, repr. in *Ger. em.* 1327. 2, and *cop. in Park.* 1421.—*Ger.* 1146. 2.

Seeds 4, in each cell 2. CRANTZ. WITH.—Fruit apple like. *Seeds* like those of the pear. CRANTZ.—*Shafts* 2 to 4, with as many seeds. DU RO1.—*Leaves* quite white underneath. *Empal.* woolly. *Petals* scolloped towards the end, and woolly at the base, white. *Shafts* woolly at the base. Fruit red. WITH.

White Beam-tree. [Wild Pear-tree, Derbyshire. Mr. Woodw.]

Woods and hedges, especially in mountainous situations and calcareous soil. [Mountainous parts of Derbyshire, from the fissures of the precipices, without any appearance of soil. Mr. WOODWARD.]

T. May.
It

It loves dry hills and open exposures, and flourishes either in gravel or clay. It bears lopping, and permits the grass to grow. The wood, being hard, tough, and smooth, is used for axle-trees, wheels, walking-sticks, carpenters, and other tools. The fruit is eatable when mellowed by the autumnal frosts, and an ardent spirit may be distilled from it. It seldom bears a good crop of fruit 2 years together.—Sheep and Goats eat it.

CRATÆ'GUS *torminalis*. Leaves heart-shaped, *Service* with 7 angles; lowermost lobes straddling.—

Jacq. fl. 443.—*Fl. dan.* 798.—*Hunt. evel.* 182.—*Matth.* 263.—*Clus. i.* 10. 2, repr. in *Dod.* 803. 2, *Lob. obs.* 614. 2, and *Ger. em.* 1471. 2.—*Ger.* 1287. 2.—*Trag.* 1010.—*Park.* 1420. 2, cop. in *J. B. i. a.* 63.—*Lonic. i.* 50. 2.—(*Blackw.* 173, is *S. aucuparia*.)

Cells 2. *Seeds* 4. **CRANTZ.**—*Blossoms* white. Fruit reddish brown. *Wild Service-tree* or *Sorb.*

Woods and hedges. [Bath Hills, near Bungay. Mr. WOODW.]
T. May.

CRATÆ'GUS *monogy'na*. Leaves generally cloven into 3, pointed. Shaft single. *JACQ.*—Lobes of the leaves expanding. **ST.*** *common*

Jacq. fl. 292. 1.—*Sheldr.* 21.—*Barr.* 563.—*Clus. i.* 121, repr. in *Lob. obs.* 614. 2, and cop. in *Park.* 1025.—*Walc.*—*Blackw.* 149. 1.—*Trag.* 984.—*Ger.* 1146. 1.—*Dod.* 751. 1, repr. in *Ger. em.* 1327. 1.—(*Jacq. fl.* 292. 2.—*Matth.* 163.—*Blackw.* 149. 2, *J. B. i. b.* 49, and *Fl. dan.* 634, are *C. Oxyacantha*.—In *Hunt. evel.* 398, are represented 3 shafts, and in the leaves it approaches very near to the true *C. Oxyacantha*.)

Trunk ascending, round, very much branched. Bark smooth. Thorns pointed. Leaves with 3 clefts, on leaf-stalks, pointed at the base, glossy; the middle segment with 3 clefts, edge very entire. Fruit-stalks branched, with 2 or 3 flowers. Empalement hairy; segments pointed, bent back. Petals, edge wrinkled. Tips red. Shaft at first simple, afterwards divided into 2. **LYONS.**—*Blossoms* white, sometimes with a pretty full tinge of crimson. **ST.**—Shaft 1, and seed 1. **CRANTZ.** **SCOP. WITH.** *Bot. Arr. ed. i.* **HUDS.** *ed. ii.*—Leaves bluntly ferrated. Branches thorny. Threads 13 to 20. Tips oblong, double, pale red. In 1 plant shafts 2, and seeds 2; but, in one of the flowers, there were 6 petals; and, in another,

* Lobis foliorum patentibus, inferne integerrimis. **ST.**

ther, one of the *clives* was half converted into a 7th petal. *Petals* bluntly scolloped. *Fruit* a coral red. *WITH*.

White-thorn. Haw-thorn. May.

The fruit called *Haws*.

Cratægus Oxyacantha. HUDS. RELH. SCOP. but the *C. Oxyacantha* of LINN. is a different plant. ST.

Woods and hedges, [but in hedges it is rather to be considered as a cultivated plant. ST.] T. May.

Upon account of the stiffness of its branches, the sharpness of its thorns, its roots not spreading wide, and its capability of bearing the severest winters without injury, this plant is universally preferred for making hedges, whether to clip, or to grow at large. The wood is tough, and is formed into axle-trees, and handles for tools. The berries are the winter food of Thrush and many other birds.

β. HUDS. Leaves and fruit larger. DILL. in *R. syn.* 454. 4.

In the hedge of an orchard at Gadington, Northamptonshire; Ricot Park, and elsewhere, Oxfordshire. DILL. ib.

3. Berries yellow. RAY.

4. Berries white.

In the bowling green hedge at Bampton, Oxfordshire. RAY.

5. Leaves more finely divided. RAY. RELHAN.

Not unfrequently met with about London. RAY.

6. The *Glastenbury Thorn* is not considered, either by Ray or Hudson, as even a naturalized plant, but, from a specimen of a young shoot of it, I am inclined to believe, that it will prove, on a careful examination, to be the *C. Oxyacantha*. ST.

Glastenbury, in Somersetshire, and about Reading, in Berks.

The different species afford nourishment to *PAPILIO Cratægi*; *PHALÆNA cæruleocephala*, *Oxyacantha*, and *cratægata*.

Order III.

TRIGYNIA; III. POINTALS.

679. S O R' B U S. Service.

EMPAL. *Cup* 1 leaf; concave; expanding; with 5 teeth; permanent.

BLOSS. *Petals* 5; circular; concave; fixed to the cup.

CHIVES. *Threads* 20; awl-shaped; fixed to the cup. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 3; thread-shaped; up-right. *Summits* roundish.

S. VESS. *Berry* soft; globular; with a hollow dimple.

SEEDS 3; rather oblong; separate; gristly.

ESS. CHAR. *Empalement* with 3 clefts. *Petals* 5. *Berry* beneath; with 3 seeds.

OBS. The number of shafts is inconstant. REICH.

S O R' B U S *aucup'ria*. Leaves winged, smooth on mountain both sides.—

Mill. ill.—Hunt. evel. 213.—Blackw. 173.—Matth. 262.—Dod.

834, repr. in Ger. em. 1473.—Lob. obs. 544. 2.—J. B. i. a. 62.

—Ger. 1290.—Park. 1419. 2.—Trag. 1009.—Crantz. ii. 1. 4, fruit cut across.

Shafts and *seeds* 3, and 4. POLLICH.—*Fruit* with 5 cells, and 5 seeds, though some of those prove abortive. CRANTZ.—*Leaves*, rib channelled. *Leaflets* 7 or 8 pair, sitting, spear-shaped, serrated, the intermediate ones the longest. *Broad-topped spike* terminating. *Berry* round, of a pleasant red, or scarlet. *Seeds* 3, 4, 5, reddish. RELHAN.—*Blossoms* white. ST.

Quicken-tree. Mountain Ash. Roan-tree.

Woods and hedges, in mountainous and boggy situations, in Wales, Scotland, and the North of England.

It grows either in woods or open fields, but best on the sides of hills, and in fertile soil. It will not bear lopping. Plants grow well in its shade. The wood is soft, tough, and solid. It is converted into tables, spokes for wheels, shafts, chairs, &c. The roots are formed into handles for knives, and wooden spoons. The berries dried, and reduced to powder, make wholesome bread;

bread; and, an ardent spirit may be distilled from them, which has a fine flavour, but it is small in quantity. The berries too, infused in water, make an acid liquor somewhat like perry, which is drank by the poorer people in Wales.

Horses, Cows, Sheep, Goats, and Swine eat it. LINN.

A Horse refused it. The berries, when ripe, have a grateful acid flavour, and are sold in the markets. ST.

bastard SOR'BUS *hybrida*. Leaves half winged, cottony underneath. LINN.—Leaves, some angular, others half winged. HUDS.

Fl. dan. 301.—*Linn. fil. fasc.* i. 6.

Stature and foliage somewhat like that of *Cratægus Aria*. *Flowers, tuft, and the 3 pointals* of *Sorbus aucuparia*. LINN.

Mountains. On the walls of Castel Dinas bran, Denbighsh.

T. May.

true SOR'BUS *domef'tica*. Leaves winged, woolly underneath.—

Jacq. fl. 447.—*Crantz.* ii. 2. 3, *the fruit*.—*Nash i. at.* p. 10. f. 3, *branch and fruit*; f. 1, *the whole tree*.—*Matth.* 261.—*Clus.* i. 10. 3, *repr. in Dod.* 803. 1, *Lob. obs.* 544. 1, *Ger. em.* 1471. 1, *and abridged in Park.* 1420. 1.—*Blackw.* 174.—*Fuchf.* 576, *cop. in Trag.* 1012, *J. B. i. a.* 59, *and abridged in Lonic.* i. 50. 1.—*Speët. de la nat.* ii. 28. *A. B. at* p. 290, *and Nat. delin.* ii. 18. *A. B. at* 311.

Fruit the size of a crab. Does not produce fruit till grown to a considerable age. LINN.—*Cells* 5. All the seeds seldom coming to perfection. *Blossoms* white. *Fruit* brownish. CRANTZ.

True Service, or Sorb.

Mountainous Forests. Mountainous parts of Cornwall, and the Moorelands of Staffordshire. [In the middle of a thick wood in the forest of Wire, near Bewdley, Worcestersh. 1 mile from Mopson's Crofs, between that and Dowles Brook, found by Mr. Pitts, Alderman of Worcester. RAY. NASH. ST.] T. Apr.

The fruit is eaten by the Italians. RAY's *travels*.—It is mealy and austere, not much unlike the Medlar.

The *Chermes Sorbi*, and *Coccinella bipustulata*, live upon this and *S. aucuparia*. LINN.

The wood is valuable for making mathematical rulers, and excemens gauging sticks. NASH.

Order IV.

PENTAGYNIA; V. POINTALS.

681. MES'PILUS. Medlar.

EMPAL. *Cup* 1 leaf; concave; expanding; with 5 teeth; permanent.

BLOSS. *Petals* 5; circular; concave; fixed to the cup.

CHIVES. *Threads* 20; awl-shaped; fixed to the cup. *Tips* simple.

POINT. *Seed-bud* beneath. *Shafts* 5; simple; upright. *Summits* roundish.

S. VESS. *Berry* globular; with a deep hollow, but closed by the cup.

SEEDS 5; bellying; hard as bone.

ESS. CHAR. *Empalement* 5 clefts. *Petals* 5. *Berry* beneath; with 5 seeds.

OBS. From the above description, it appears, that the *Cratægus Sorbus*, and *Mespilus*, are very nearly allied, so as hardly to be distinguished, otherwise than by the number of pointals. The leaves of the *Sorbus* are generally winged; of the *Cratægus* angular; and of the *Mespilus* entire. LINN.—The number of shafts variable. REICH.

MES'PILUS *germanica*. Without thorns. Leaves common spear-shaped; cottony underneath. Flowers solitary, fitting.—

Ludw. —Blackw. 154, flower and fruit well done.—Ger. 1264.

1.—Dod. 801. 1, repr. in Lob. obs. 591. 1, and Ger. em. 1453.

1.—Mauh. 253, ill cop. in Park. 1422. 2.—J. B. i. a. 69.—

Trag. 1014.—Lonic. i. 13. 1.

Branches woolly. Leaves oval spear-shaped; towards the point serrated, and somewhat woolly. Leaf-stalks very short, channelled. Empalements terminating, hairy, with a floral-leaf as long as the blossom. LINN.—Floral-leaf strap-shaped. Empal. fleshy, woolly within; teeth longer than the blossom. Chives unequal, 30 or more. Summits cloven. WITH.—Blossoms white. Fruit reddish brown.

Medlar Tree.

Hedges

Hedges, about Minehiville.

T. May.

Many people are fond of the fruit when it becomes soft by keeping; it is somewhat austere, and binds the bowels. WITH.

682. PY'RUS. Pear.

EMPAL. *Cup* 1 leaf; concave; with 5 shallow clefts; permanent; *segments* expanding.

BLOSS. *Petals* 5; circular; concave; large; fixed to the cup.

CHIVES. *Threads* 20; awl-shaped; shorter than the bloss. fixed to the cup. *Tips* simple.

POINT. *Seed-bud* beneath. *Shafts* 5; thread-shaped; as long as the chives. *Summits* simple.

S. VESS. an *Apple*; somewhat globular; with a hollow dimple; fleshy; with 5 cells; divisions membranaceous.

SEEDS several; oblong; blunt; taper at the base; convex on one side; flat on the other.

ESS. CHAR. *Empalement* with 5 clefts. *Petals* 5. *Apple* beneath; with 5 cells, and many seeds.

common PY'RUS *communis*. Leaves serrated, smooth. Flowers in broad-topped spikes.—

wild α . Park. 1500. 2.—Ger. 1271. 3.

cultivated β . Huds.—Blackw. 453.—Math. 251.—Lob. obs. 590. 2, repr. in Ger. em. 1457, and cop. in Park. 1500. 1.—Dod. 800, repr. in Ger. em. 1456.—Ger. 1267 to 1270.—Lonic. i. 11.—Trag. 1045.

* Blossoms white.

Pear Tree.—Woods and hedges.

T. April. May.

It loves a fertile soil, and sloping ground; but will not thrive well in moist bottoms. It stands the severest winters, and does not destroy the grass. The wood is light, smooth, and compact; it is used by turners, and to make joiners tools; and for picture frames, to be stained black. The leaves afford a yellow dye, and may be used to give a green to blued cloths. The fruit is austere; but, when cultivated, highly grateful, as is proved by the great variety of excellent pears which the industry of mankind has raised, for they all originate from this. WITH.—The juice of the fruit, fermented, is called Perry, large quantities of which are raised in Worcestershire and Herefordshire. The sort called Squash Perry is held in peculiar estimation, and its flavour preferred by many to

to that of Champagne, which it much resembles in colour, and in the large quantity of fixed air it contains. ST.

Horses, Cows, Sheep, and Goats eat the leaves, which afford nourishment to *PAPILIO polychloros*; *PHALÆNA Populi*, *lubricipeda*, *quercifolia*, *pudibunda*, *cærulocephala*, *brumata*, *Pomonella*; *APHIS Pyri*; *CHERMES Pyri*; *CURCULIO Pyri*; *MUSCA Pyraſtri*. LINN.

A Horse eat it, but did not seem fond of it. ST.

PY'RUS *Mal'us*. Leaves serrated. Rundles sitting. *Apple*

Blackw. 178.—*Ger.* 1276. 1, 2, and 3.—*Ger.* 1272. 4, *cop. in*

Ger. em. 1461, and *Park.* 1503. 2.

Leaves more circular than those of the preceding species. *Petals* tinged with red on the outside.

Crab Tree. *Wilding.*

Woods and hedges.

T. May.

It flourishes better on declivities, and in shady places, than in open exposures, or boggy lands. Grass, and even corn, will grow beneath it. It is much used as a stock, on which to ingraft the better kinds of apples; because its roots are neither killed by frost, nor eaten by field mice. The bark affords a yellow dye. The wood is tolerably hard; it turns very clean, and, when made into cogs for wheels, obtains a polish, and wears a long time. The acid juice of the fruit is called, by the country people, Verjuice, and is much used in recent sprains, and in other cases, as an astringent or repellent. With a proper addition of sugar, it is probable that a very grateful liquor might be made with the juice, but little inferior to Old Hock.

Horses, Cows, Sheep, and Goats eat it. Swine are very fond of the fruit. LINN.

A decoction of the inner bark is said to be a good substitute for the Peruvian Bark. Mr. HOLLEFEAR.

PHALÆNA dispar, *Populi*, *Fascelina*, *Chrysorrhæa*, *Pſi*, *Oporana*, *brumata*, *Pomonella*, *Monacha*; *APHIS Mali*; *SCARABÆUS Horticola* feed upon it.

β. HUDS.—*Blackw.* 141.—*Mill. ill.*—*Ger.* 1273 to 1274.—*J. B.* cultivated

i. a. 1.—*Lob. obs.* 590. 1, *repr. in Ger. em.* 1459. 1, and *cop. in*

Park. 1503. 1.—*Dod.* 789, *repr. in Ger. em.* 1459. 2.—*Lonic.*

i. 10. 1, the fruit represents different cultivated varieties.

Apple Tree.—Orchards, and hedge rows.

T. May.

The juice fermented is called Cyder, of which large quantities are made in Herefordshire, Devonshire, and part of Worcestershire and Gloucestershire, in a soil of deep clay. The stronger sorts, as the Styre Cyder, will bear exportation to the East and

West Indies. The Cyder apple trees were originally brought from Normandy. A Horse repeatedly refused the leaves, and even young shoots. ST.

686. SPIRÆ'A. Meadowsweet.

EMPAL. *Cup* 1 leaf; with 5 shallow clefts; flat at the base; *segments* sharp; permanent.

BLOSS. *Petals* 5; inversely egg-shaped, but oblong; fixed to the cup.

CHIVES. *Threads* more than 20; thread-shaped; shorter than the blossom; fixed to the cup. *Tips* roundish.

POINT. *Seed-buds* 5 or more. *Shafts* the same number; thread-shaped; as long as the chives. *Summits* somewhat globular.

S. VESS. *Capsules* oblong; tapering; compressed; valves 2. SEEDS few; tapering; small.

ESS. CHAR. *Empalement* 5 clefts. *Petals* 5. *Capsules* with many seeds.

Dropwort SPIRÆ'A *Filipendula*. Leaves interruptedly winged; leaflets strap-spear-shaped, interruptedly serrated, very smooth. Flowers in tufts.—

Fl. dan. 635.—*Blackw.* 467.—*Fuchs.* 562, *cop. in Trag.* 883.—*Lonic.* i. 220. 2.—*Ger.* 900. 1.—*Matth.* 865.—*Clus.* ii. 211. 2, *repr. in Dod.* 56. 1, *Lob. obj.* 420. 3, *Ger. em.* 1058. 1, and *cop. in Park.* 435. 1, *Pet.* 71. 6, and *abridged in H. ox.* ix. 20. row 1, left hand figure.—*J. B.* iii. b. 189, more like those of *Sison verticillatum*.

Capsules numerous, disposed in a circle. LINN.—*Stem*, upper part nearly naked. *Leaflets* with appendages at the base, the terminating one with 3 lobes. *Leaf-scales* embracing the stem, serrated; serratures almost awned. MR. WOODWARD.

Dropwort.

Mountainous meadows and pastures, in a calcareous soil. Swaffham Heath, Norfolk. MR. CROWE.—Ripton, Huntingdonshire. MR. WOODWARD.—Bredon Hill, above Overbury, Worcester-sh. NASH.—Near Madresfield; Worcester-sh. MR. BALLARD.—Frequent in the neighbourhood of Worcester. ST. P. July.

The tuberous pea-like roots, dried and reduced to powder, make a kind of bread, which, in times of scarcity, is not to be despised.—Hogs are very fond of them. Cows, Goats, Sheep, and Swine eat it. Horses refuse it.

SPIRÆ'A

SPIRÆA Ulma'ria. Leaves interruptedly winged. *common*
Leaflets egg-shaped, doubly ferrated, hoary underneath.
Flowers in tufts.—

Ludw. 23.—*Fl. dan.* 547.—*Blackw.* 465:—*Clus.* ii. 198. 1, repr.
in *Dod.* 57, *Ger. em.* 1043, cop. in *Park.* 592. 1, *Pet.* 71. 8,
and *H. ox.* ix. 20. row 1. 1. figure the 3d.—*Ger.* 886.—*J. B.*
iii. 488. 2.

Capsules twisted in a spiral direction. *LINN.*—*Stem* angular, often purple. *Leaves* downy and white underneath; smaller leaflets intermixed with the larger. *Mr. Woodward.*—*Stem* angular, reddish. *Leaves* bright green above, white underneath, irregularly ferrated; the terminating leaflet divided into 3 segments. *Leaf-stalks* deeply channelled. *Flowers* yellowish white. *Empalement*, segments sometimes 4, after flowering bent back. *Petals* sometimes 4, concave, fixed to the empalement by a slender claw. *Threads* longer than the blossom. *Tips* yellow. *Seed-buds* 5 to 8. *Shafts* short, thick, crooked. *Summits* flattened knobs. *Capsules* 5 to 8, but mostly 6, twisted spirally together. *WITH.*

Meadowsweet. *Queen of the Meadows.*

Moist meadows, and banks of rivers.

P. June. July.

The flowers, infused in boiling water, give it a fine flavour, which rises in distillation.

Sheep and Swine eat it. Goats are extremely fond of it. Cows and Horses refuse it.

SPHINX ocellata, and *Filipendula*, feed on both species. *LINN.*

A Horse eat the leaves and stem. They generally leave it in the fields, but are observed occasionally to eat it; and Cows, I am informed, eat it when they have the yellows. *ST.*

Order V.

POLYGYNIA; MANY POINTALS.

687. R O'S A. Rose.

EMPAL. Cup 1 leaf. Tube distended; but narrow at the neck; border globular; with 5 divisions; expanding; segments long; spear-shaped; narrow.

BLOSS. Petals 5; inversely heart-shaped; as long as the cup, and fixed to its neck.

CHIVES. Threads many; hair-like; very short; fixed to the neck of the cup. Tips 3-edged, (4-edged. Mr. DICKENSON.)

POINT. Seed-buds numerous; at the bottom of the cup. Shafts as many as there are seed-buds; closely compressed by the neck of the cup; fixed to the side of the seed-bud. Summits blunt.

S. VESS. Berry fleshy; top-shaped; coloured; soft; of 1 cell; crowned by imperfect segments; closed at the neck; formed by the tube of the cup.

SEEDS numerous; oblong; hairy; adhering to the cup.

ESS. CHAR. Petals 5. Empalement pitcher-shaped; with 5 clefts; fleshy; contracted at the neck. Seeds many; rough with hairs; fixed to the inner side of the empalement.

OBS. The empalement of the seed-vessel gives it the appearance of a berry. Segments of the cup, 2 alternate ones sometimes with appendages on each side, the other 2 alternate ones naked; sometimes only the 5th segment has appendages.

Sweet-briar

R O'S A *rubiginosa*. Seed-buds globular. Seed-buds and leaf-stalks prickly. Prickles bowed back. Leaves rusty underneath. LINN.—Rather beset underneath with glandular hairs. LIGHTF. ST.—Leaflets egg-shaped. HUDS.—Fruit either smooth or slightly prickled. LIGHTF.

Jacq. fl. 50.—Walc.—Dod. 186. 2, repr. in Ger. em. 1269. 1, left hand figure.—Ger. 1087. 1.—Park. par. 419. 8, leaves egg-shaped.—(J. B. ii. a. 42, fruit-stalks solitary and too long.)

Branches smooth, but with scattered pretty large prickles. Leaflets generally 7, egg-shaped, pointed, scattered over underneath with purplish

purplish resinous globules. *Leaf-stalk* rough with hairs, and minute prickles, and, as are the *floral-leaves*, beset with minute glands on pedicles. *Seed-bud* nearly globular, beset, especially at the base, with a few small prickles. *Fruit-stalk* with very minute prickles. *Blossoms* purple. The *R. Eglantheria* differs in growing taller, and having straight prickles, and *blossoms* large, yellow, and scent-less. LINN.—*Stem* with scattered prickles. *Leaflets* roundish, ferratures beset with glands. *Fruit-stalks* rough with glandular hairs. DU ROÏ.—*Leaflets* doubly ferrated, smooth above, except a few scattered hairs along the mid-rib, even in the newly expanded leaves, half doubled together, not so full-scented as those of the *Garden Sweet-briar*. *Glands* rusty-coloured or red. Its habit and mode of growth the same with that of the garden sort. In the *Garden Sweet-briar* the *leaves* beset above with very short hairs, oval-egg-shaped, and not unfrequently oval; the *glands* yellowish. They seem at least varieties. ST.—*Seed-buds* egg-shaped. *Fruit* black when ripe. LIGHTF.—That of the *Garden Sweet-briar* scarlet, sometimes smooth. ST.—*Seed-bud*, prickles not numerous and chiefly on one side. *Leaves*, the rusty appearance chiefly confined to the lower leaves. Their sweet scent seems to be owing to the glands. WITH.

R. suavisolia. LIGHTF.—*R. eglantheria*. HUDS. DU ROÏ.

Sweet-briar. *Eglantheria*.

Hedges and heaths. [Hedges, Norfolk, but not frequent. Mr. WOODWARD.—Between Dudley and Tipton. Mr. STOKES.—In Mr. Terne's garden, Worcester, from a gravel pit near Claines Church. ST.] S. June. July.

A Horse refused some of the young shoots, and even the leaves picked off of the garden sort, but they will sometimes eat the tender tops in the spring. ST.

RO'SA *arvensis*. *Seed-buds* globular. *Seed-buds* *corn* and *fruit-stalks* smooth. *Stem* and *leaf-stalks* prickly. *Flowers* in tufts. LINN.—In a kind of tuft. HUDS.—*Flowers* in a kind of rundle. *Leaves* of the empalement entire. *Shaft* single, compound, as long as the chives.* *Flowers* not unfrequently solitary. ST.

Walc.—J. B. ii. 44. 1.—(Fl. dan. 398, is *R. spinosissima*, to which species also it is referred by Linnæus. *Flowers* solitary, and therefore not *R. arvensis*, as Muller supposes it in his index to the Fl. dan.)

* Floribus subumbellatis, calyce integro, stylo unico, composito stamina æquantæ. ST.

Flowers on long fruit-stalks, several together in a sort of rundle, smaller. *Fruit* smaller and rounder than that of the *R. canina*. RAY. ST.—*Stem* smother; prickles not very frequent, hooked. *Leaflets* spear-shaped, serrated, smooth, taper-pointed. *Fruit-stalks* beset with minute prickles, often in rundles. *Seed-buds* somewhat globular. *Leaf-scales* very pointed. *Floral-leaves* egg-shaped. *Empalement* smooth; segments strap-shaped, very narrow. LYONS.—*Leaves* simply serrated. *Fruit-stalks* beset more or less with hairs terminated by globular heads, not subdividing as in a tuft, nor rising exactly from the same point, sometimes solitary. *Prickles* bowed downwards. *Blossoms* white. *Shafts* as soon as they have passed through the neck of the empalement, compacted into a cylinder resembling a single shaft, terminated by a knob composed of the summits. This circumstance will alone distinguish it from the other species. *Fruit* globular, red. ST.

White-flowered Dogs Rose.

Hedges and heaths.

S. July.

β. HUDS.—Wild Dog Rose, with a single flower and fruit. RAY. *syn. indic.*

Between Hackney and London, and Bishop's Wood. *ib.*

burnet RO'SA *spinossissima*. *Seed-buds* globular, smooth. *Fruit-stalks* rough with strong hairs.* *Stem* and *leaf-stalks* thick set with prickles. LINN.—*Leaves* of the empalement entire. *fl. succ.* DU ROI. ST.—*Fruit-stalks* with and without prickles. LINN.

Fl. dan. 398, is the plant, but leaves egg-shaped, and thorns too weak, and apparently flexible.—*Ger.* 1088, cop. in *J. B.* ii. 41. 1.—*Park.* 1018. 8.—*Clus.* i. 116. 1, repr. in *Dod.* 187, *Ger. em.* 1270. 3, and cop. in *J. B.* ii. 40. 2, leaves more oblong than they are generally with us.—(*Ger. em.* 1270. 4, cop. in *J. B.* ii. 40. 1, has no thorns.)

Stem, prickles awl-shaped, straight, horizontal, very thickly set, unequal. *Leaflets* 9, small, inversely egg-shaped. *Leaf-stalks* without thorns. *Fruit* globular, black when ripe. *Seed-buds* often prickly at the base. *Petals* white, yellowish at the base. Haller considers it as a variety of *R. pimpinellifolia*. LINN.—*Branches* round. *Leaf-stalks* not prickly. *Leaflets* very small, roundish, sitting. *Leaf-scales* small, halberd-shaped, toothed. MR. WOODWARD.—*Bloss.* white, or cream-coloured, sometimes red. LIGHTF.—*Prickles* flat. WITH.

* And yet Linnæus cites *Fl. dan.* where the fruit-stalks are smooth. ST.

Burnet Rose. Pimpernell Rose.

Heaths and sandy places. [Hedges near Yarmouth, frequent. Mr. WOODWARD.—Perran Downs, Cornwall. Mr. WATT.—Hedges and ditch banks about Worcester. ST.]

The ripe fruit is eaten by children; it has a grateful sub-acid taste. The juice of it, diluted with water, dyes silk and muslin of a peach-colour; and with the addition of alum a deep violet; but it has very little effect on woollen or linen.

Cows, Sheep, Goats, and Swine eat it. Horses refuse it.

β. Blossoms red, striped with white. SIBBALD. LIGHTF.

Ciprian Rose.

RO'SA *villosa*. Seed-buds globular. Seed-buds *apple* and fruit-stalks rough with hair. Prickles of the stem scattered. Leaf-stalks prickly. Leaves downy.—

γ. B. ii. 38. 1.—*Park. par.* 419. 7.

Stem smooth, 2 or 4 prickles near together below the knots. Leaves blunt. Petals red. LINN.—Fruit-stalks, seed-bud, leaf-stalks, edges of the leaf-scales, and serratures of the leaflets beset with hairs of various lengths terminated by a gland. Leaflets 6, with an odd one, egg-shaped, more or less pointed. Petals longer than the empalement. Fruit not always hairy. Mr. WOODW.—Leaves doubly serrated. ST.—Leaves downy on both sides.

Mountainous hedges and shady places in the northern counties. [Grass Wood, near Kilnsay, Yorkshire. CURT.—In the vallies of mountainous countries. In the Craven part of Yorkshire. Mr. WOOD.—Near Ulswater, Cumberland. Mr. WOODW.] S. June.

β. HUDS.—*Wild Briar or Dog Rose with large prickly levs.* RAY.

Petals rather larger; leaflets broader, shorter and more pointed; and prickles more hooked than in the north country plant. No other observable difference. Mr. WOODWARD.—Stem wrinkled, not hairy or glandular. Leaflets egg-shaped, serrated, 1 and 2, but mostly 3 pair, downy on both surfaces. Fruit-stalks, floral-leaves, empalements, seed-buds, edges of the leaves, and leaf-stalks set thick with globular glands supported on longer, shorter, finer, or coarser hairs or bristles. Prickles a little hooked downwards, rather flat, not broad. Empalement as in *R. canina*. Chives yellow. Tips after shedding their dust brown. Leaves when rubbed have a faint agreeable scent. WITH.

Hedges, common. RAY. Mr. WOODW. ST.—Near London. HUDS.

RO'SA *canina*. Seed-buds egg-shaped. Seed-buds *dog* and fruit-stalks smooth. Stem and leaf-stalks prickly.

M m 4

LINN.—

ICOSANDRIA POLYGYNIA.

LINN.—Empalement half-egg-shaped, winged, woolly. Leaf-stalks rather rough with hairs. Leaflets sharp-pointed, ferrated. Du Roi.

Curt. v. 51, berries of 100 brown a red.—Fl. dan. 555.—Blackw.

8.—Ludw. 70.—Park. 1017. 1.—J. B. ii. 43. 2.—Trag. 986.

2.—Ger. 1087. 2.—(Ger. em. 1270. 3, is *R. spinosissima*.)

Stem smooth, with 2 alternate hooked prickles between each knot. Leaf-stalks with hooked prickles. Leaves sharpish, bare of hairs on each side. Floral-leaves 2, opposite, fringed. Petals with 2 lobes, flesh-coloured. LINN.—Leaflets 2 or 3 pair, with an odd one, pointed; ferratures terminated by minute purple glands. Leaf-stalks sheathing; edges beset with purple glands. Prickles broad, flat, bowed downwards. Empal. segments 2, furnished with long teeth on both edges, 2 without, and the 5th with teeth on one edge. Petals red, sometimes nearly white; 1 lobe larger than the other. Threads yellowish. Tips yellow, afterwards brown. WITH.

Dogs Rose. Hep Tree. Wild Briar.

Hedges and Woods.

S. June.

A perfumed water may be distilled from the blossoms. The pulp of the berries, beat up with sugar, makes the conserve of hepps of the London Dispensatory. Mixed with wine it is an acceptable treat in the north of Europe. Several birds feed upon the berries. The leaves of every species of Rose, but especially of this, are recommended in the *Eph. nat. curiosor.* as a substitute for tea, giving out a fine colour, a sub-astringent taste, and a grateful smell, when dried, and infused in boiling water.

Cows, Sheep, Goats, and Swine eat it. Horses are not fond of it.

It is a difficult matter to say which are species, and which are varieties only, in this genus; Linnæus seems to think that there are no certain limits prescribed by nature.

The different species nourish the following insects: *Phalæna Salicella*, *Pavonia*, *Libatrix*, *Retularia*; *Tenthredo Rosæ*, *Cynostati*; *Ichneumon Bedegauris*; *Cicada Rosæ*; *Aphis Rosæ*; *Scarabæus auratus*; *Musca pellucens*; and those moss-like prickly excrescences, which are frequently found upon the branches of Roses, especially upon the last species, are the habitations of the *Cynips Rosæ*. This excrescence was formerly in repute as a medicine, and was kept in the shops under the name of Bedeguar. An infusion of the full blown blossoms of all the Roses, especially the paler kinds, is purgative; but the petals of the red Roses, gathered before they expand, and dried, are astringent.

688. RU'BUS. Bramble.

EMPAL. *Cup* 1 leaf; with 5 divisions; *segments* oblong; expanding; permanent.

BLOSS. *Petals* 5; circular; as long as the cup; upright; but expanding; fixed to the cup.

CHIVES. *Threads* numerous; shorter than the petals; fixed to the cup. *Tips* roundish; compressed.

POINT. *Seed-buds* numerous. *Shafts* small; hair-like; from the sides of the seed-buds. *Summits* simple; permanent.

S. VESS. *Berry* composed of little granulations, collected into a knob, which is convex above, and concave beneath. Each granulation hath 1 cell.

SEEDS solitary; oblong. *Receptacle* of the seed-vessels conical.

ESS. CHAR. *Empalement* with 5 clefts. *Petals* 5. *Berry* composed of single-seeded granulations.

OBS. In the *R. saxatalis* the granulations are distinct.

* Shrubby.

RU'BUS *idæus*. Leaves, some winged with 5 leaflets, *Raspberry* others 3-fingered. Stem prickly. Leaf-stalks channelled.

Fl. dan. 788.—*Clus.* i. 117, repr. in *Dod.* 743. 1, *Lob. obs.* 619. 2, *Ger. em.* 1272. 2, and cop. in *J. B.* ii. 59. 2.—*Trag.* 973, cop. in *Lonic.* i. 41. 2.—*Park. par.* 559. 1.—*Trag.* 973.—*Ger.* 1089. 1.—*Matth.* 1010.

Stems upright, or slightly bent back, green, 2 feet high, biennial, producing fruit the 2d year, after which they die down, thick set with small prickles. *Leaves* serrated, with a short white down underneath. *Fruit-stalks* rough with hair. LINN.—*Blossoms* white. *Berry* red.

Rasp-berry Bush. Framboise. Hind-berry. Raspis.

Woods and hedges, rocky mountains, and moist situations in Wales and the North of England. Stoken-church Woods. [Grass Wood, near Kilnsay, Yorkshire. CURT.—Thorpe, near Norwich. Mr. CROWE.—Berkhamstead, Herts. Mr. WOODWARD.—Sides of rivulets. WITH.—Wayley Bridge, Cheshire; wood near Black-lake, between Birmingham and Wednesbury; and neighbourhood of Aston, near Birmingham. ST.] S. May. June.

The fruit is extremely grateful, as nature presents it; but, made into a sweetmeat, with sugar, or fermented with wine, the flavour

is improved. It is fragrant, sub-acid, and cooling. It dissolves the tartarous concretions of the teeth, but for this purpose it is inferior to the Straw-berry. The white berries are sweeter than the red, but they are generally contaminated by insects. The fresh leaves are the favourite food of kids.

Sheep, Goats, and Swine eat it. Cows are not fond of it. Horses refuse it. LINN.—A Horse eat it. ST.

It is so plentiful about Kendal, that the berries are sometimes sold at 1d. a quart. Mr. W. REYNOLDS.

Dew-berry RU'BUS *caesius*. Leaves 3-fingered, almost naked; the lateral leaflets with 2 lobes. Stem prickly, cylindrical. LINN.—Bunches with few flowers. ST. Mr. WOODW.*

Dod. 742. 2.—(Park. 1014. 2, seems to be variety 2, and Ger. 1089. 2, cop. in J. B. ii. a. 59. 1, is *R. fruticosus*.)

Stem, prickles very fine, scattered, small, bowed back, interspersed between the rough points, 3 feet long, purplish, branched, with pendant shoots at the top. Leaves green, not cottony, though often downy underneath, ferrated; the middle leaflet egg-shaped, the lateral ones with generally 2 lobes. LINN.—Stem prostrate, not so much branched. Leaves more deeply cut, somewhat hairy underneath. Fruit-stalks round, downy, long, with from 1 to 3 flowers, sometimes prickly. Fruit composed of fewer and larger granulations from 1 to 5. HALL. Mr. WOODWARD.—Runners, in open situations lying near the ground, but not running to the length they do in close woods. Mr. WOODWARD.—Blossoms white. Fruit bluish black.

Dew-berry Bush.

Woods and hedges, [and balks of corn fields. Mr. WOODW.] S. June. Jul.

The berries are pleasant to eat, and, put into red wine, communicate a fine flavour.

Cows, Goats, and Sheep eat it. Horses refuse it.

greater 2. *major*. Leaves 3-fingered and 5-fingered. Mr. WOODW. ST. Blackw. 45. 1.—Park. 1014. 2, but the fruit on the left hand side is that of *R. fruticosus*.

Stems roundish; when growing in hedges frequently stronger and larger than the *R. fruticosus*, but in ditches not larger than *R. caesius* α , and throwing out creeping runners; prickles smaller than those of *R. fruticosus*, slightly bent, but not hooked. Leaves bright green above, beneath pale and slightly hairy, but never downy; the

* *Racemis paucifloris*. ST. D. WOODWARD.

the odd leaflet largest, on a long leaf-stalk, and, in the 5-fingered ones the 2d pair on very short leaf-stalks, egg-spear-shaped, pointed, broad at the base, and sometimes slightly heart-shaped, cut-ferrated, and more deeply and irregularly jagged than in *R. fruticosus*; in the 3-fingered ones the lateral leaflets lobed. *Fruit-stalks* roundish. *Flowers* smaller, and later than those of the *R. fruticosus*, often abortive. *Fruit* with few and large granulations, and, when ripe, covered with a bloom; very frequently abortive. *Dill.* in *R. syn.* 467, seems to have been clear that there were 2 sorts of Great Bramble, but he has not well ascertained their differences. Mr. WOODWARD.

Hedges, Norf. generally intermixed with *R. fruticosus*. MESSRS. PITCHFORD and WOODWARD.

RUBUS fruticosus. Leaves 5-fingered, and 3-fingered. Stem and leaf-stalks prickly. LINN.—Bunches oblong. ST. Mr. WOODWARD.*

Mill. ill.—*Schmied.* 2.—*Blackw.* 45. 7.—*Math.* 1009, imitated in *Dod.* 742. 1, which repr. in *Lob. obs.* 619. 1, ic. ii. 211. 2, *Ger. em.* 1272. 1, and cop. in *Park.* 1013.—*Fuch.* 152.—*Trag.* 970.—*Ger.* 1089. 2, cop. in *J. B.* ii. 59. 1.—*Lonic.* i. 41. 1.

Stem angular, very long, with runners often several times the height of a man in length, spreading and climbing far and wide, and sometimes striking root; prickles alternate, strong, bowed back. *Leaves* sharply and unequally ferrated, either green on both sides, or white and cottony underneath; the middlemost leaf largest, heart-shaped, on a leaf-stalk, the rest fitting, the lowermost very small, pointing backwards. LINN.—*Leaves*, the lower 5-fingered, the upper 3-fingered, and sometimes simple or with 2 or 3 lobes. *Petals* flaccid, white, or purplish. *Granulations* about 50. HALL. ST.—*Stems* alway angular; prickles always strong and hooked. *Leaflets* usually elliptical, sometimes oval-spear-shaped, ferrated, dark green above, white with a close down underneath, sometimes, though rarely, only hairy, and then pale green; the middlemost on a long leaf-stalk, the next pair on short leaf-stalks, the lower on shorter leaf-stalks, and sometimes, though rarely, fitting. Mr. WOODWARD.—*Empal.* segments cottony. WITH.—*Fruit*, first red, but black when ripe.

β. Fruit white. Bark and leaves of a pleasant green.

Hedge near Oxford. BOBART in *R. syn.* 467. 2.

* *Racenis oblongis.* ST. D. WOODWARD.

3. Leaves smooth underneath. DILL.—Leaves pale green, and only slightly hairy underneath. MR. WOODWARD. ST.

Rubus quinquefidus subtus glaber. DILL. in R. fyn. 467. (ST.)

4. Leaves slightly variegated. Found a plant with some of the leaves with yellowish white blotches growing wild. ST.

Bramble. Black-berry Bush. Bumblekites.

Hedges and woods.

S. June.—Sept.

The berries, when ripe, are black, and do not eat amifs with wine. The green twigs are of great use in dying woollen, silk, and mohair, black.

Cows and Horses eat it. Sheep are not fond of it. LINN.

Three Horses refused it. Silk-worms will sometimes feed upon the leaves in defect of those of the mulberry. ST.

** *Herbaceous.*

stone R U'BUS *saxat'ilis.* Leaves 3-fingered, bare. Wires creeping, herbaceous. LINN.—*Lower-leaves sometimes 5-fingered.* Dr. J. E. SMITH.

Fl. dan. 134.—*Chuf.* i. 118. 1, repr. in *Ger. em.* 1273. 4, and cop. in *Ger.* 1090. 3, and *Park.* 1014. 4.—*J. B.* ii. 61.

Wires thread-shaped, very long, dying down at the end of the year, rough with hairs, and often beset with weak thorns. Granulations of the berries distinct. LINN.—*Leaflets* generally 1 on a leaf-stalk, and the rest sitting, sometimes all on fruit-stalks, sometimes all sitting; cut-ferrated, pale green, slightly hairy underneath. *Fruit* composed of a few large granulations, when ripe of a beautiful clear pink, and a pleasant sub-acid flavour. *Blossoms* purple or white. MR. WOODWARD.

Amongst stones on the sides of mountains in Yorkshire, Cumberland, and Westmoreland. [Llyn y Cwn, near Snowdon. PENN. Wales.—Woods about Settle and Ingleton, and not far from the summit of Helsfeltnab, near Kendal. CURT.—Helk's Wood, by Ingleton, Yorkshire. Hills opposite Matlock Bath. MR. WOODWARD.—In Dob Bottom, a deep, woody, rocky dell, opposite the Holme, near Burnley, Lancash. MR. WOOD.] P. June.

The berries are not very good, but children eat them.

Cows, Goats, Sheep, and Swine eat it. Horses refuse it.

Cloud-berry R U'BUS *Chamaemorus* Leaves simple, lobed. Stem without prickles, with 1 flower.—

Fl. dan. 1.—*Fl. lapp.* 5. 1.—*Lightf.* 13. at p. 266.—*Park.* 1014.

7.—*Chuf.* i. 118. 2,* repr. in *Ger. em.* 1273. 4, and cop. in *Ger.*

* Ill done if the plant. LINN. ST.

Ger. 1090. 4, Park. 1014. 6, and J. B. ii. 62.—Ger. 1368, repr. in Ger. em. 1420.

Chives and *pointals* on different plants, but Dr. SOLANDER discovered the roots of the 2 plants to be united under ground. LINN.—Stem hardly a foot high. *Blossoms* white, or purple. *Berries* red.

Chamæmorus cambro-britannica, *sive lancastrense Vaccinium nubis*. PARK 1015.—*Vaccinia nubis*. GER. 1368, and em. 1420. (ST.)

Cloud-berries. *Knot-berries*. *Knout-berries*.

Peat bogs on the sides of the mountains of Yorkshire, Westmorland, Cumberland, Lancashire, and Caernarvonshire. [Sides of the highest mountains about Settle and Ingleton. CURT.—Ingleborough, Yorkshire Mr. WOODWARD. ST.] P. May. June.

The berries are not unpleasant, and held to be an excellent antiscorbutic. The Norwegians pack them up in wooden vessels and send them to Stockholm, where they are served up in deserts, or made into tarts. The Laplanders bury them under the snow, and thus preserve them fresh from one year to another. They bruise and eat them with the milk of the Rein Deer. In the Highlands of Scotland also they are sometimes brought to table with the desert.

Cows, Sheep, and Goats eat it.

The *PAPILIO Rubi*, *PHALÆNA Pavonia*, *Rubi*, *Fascelina*, and *Sambucaria*, are nourished by the different species.

689. FRAGA'RIA. Straw-berry.

EMPAL. Cup 1 leaf; flat; with 10 shallow clefts. *Segments* alternately narrower; the narrow ones placed without the rest.

BLOSS. *Petals* 5; circular; expanding; fixed to the cup.

CHIVES. *Threads* 20; awl-shaped; shorter than the bloss. fixed to the cup. *Tips* crescent-shaped.

POINT. *Seed-buds* numerous; very small; forming a knob. *Shafts* simple; from the sides of the seed-buds. *Summits* simple.

S. VESS. none. *Receptacle of the seeds* a sort of berry; globular-egg-shaped; pulpy; soft; large; coloured; lopped at the base; deciduous.

SEEDS numerous; very small; tapering; scattered on the surface of the receptacle.

ESS. CHAR. *Empal. clefts* 10. *Petals* 5. *Receptacle of the seeds* egg-shaped; like a berry; falling off.

FRAGA'RIA *ves'ca*. Wires creeping.—

common

Blackw.

Blackw. 77. 1.—*Ludw.* 136.—*Sheldr.* 3. 6, fruit.—*Dod.* 672. 2, repr. in *Ger. em.* 997. 1, and cop. in *H. ox.* ii. 19. row 1. 1. f. 2, and *Pet.* 40. 7.—*Fuchf.* 853, cop. in *J. B.* ii. 395. 3.—*Trag.* 500.—*Lonic.* i. 215. 1.—(*Sheldr.* 3. 1 to 5, and 7, leaf, fruit, and flower.—*Matth.* 1021.—*Dod.* 672. 1, repr. in *Lob. obs.* 396. 1, *Ger. em.* 997. 2, and cop. in *Park.* 758.—*Ger.* 844. 1 and 2.—*H. ox.* ii. 19. row 1. 1. f. 1, seem to be garden varieties.)

When growing in woods the segments of the empalement cut at the point. *REICH.*—*Leaflets* oval-spear-shaped, acutely ferrated. *MR. WOODWARD.*—*Wires* long, slender, smooth, often tinged with purple. *Leaf-stalks* woolly. *Leaves*, leaflets 3, egg-shaped, ferrated. *Fruit-stalks* with 2 or more flowers. *Tips* falling off, nearly heart-shaped. *Blossoms* white. *Fruit* red. *WITH.*

Wood Straw-berry.

The berries, either eaten alone, or with sugar, or with milk, are universally esteemed a most delicious fruit. They are grateful, cooling, sub-acid, juicy, and have a delightful smell. Taken in large quantities they seldom disagree. They promote perspiration, impart a violet scent to the urine, and dissolve the tartarous incrustations upon the teeth. People afflicted with the gout or stone have found great relief by using them largely; and Hoffman says, he has known consumptive people cured by them. The bark of the root is astringent.

Sheep and Goats eat it. Cows are not fond of it. Horses and Swine refuse it.

The *Cicada Spumaria* (Cuckow-spit) is very frequently found upon the leaves, and the *Coccus Polonicus* upon the roots.

rough β . *Huds.* Fruit harsh, rough, and prickly, greenish, with some shew of redness. Blossoms greenish. *GER. em.*

Hyde Park; Hampstead Wood. *MERRET.*

γ . *Huds.* Fruit of the size of a small plumb.

δ . Fruit white. *Huds. WITH.*

barren **FRAGA'RIA** *ster'ilis*. Stem drooping. Flowering branches limber.—

Curt. iii. 29.—*Vaill.* 10. 1.—*Lob. ic.* i. 698, repr. in *Ger. em.* 998, and cop. in *Pet.* 40. 8.—*J. B.* ii. 395.—*H. ox.* ii. 19. 5.

Suckers thick, depressed, covered with spear-shaped proprs of the colour of rusty iron. *Leaves* growing by threes, inversely egg-shaped, ferrated, flexible, hairy, white underneath. *Leaf-stalks* very hairy. *Flowering-stems* thread-shaped, with a few small leaves. *Flowers* solitary, white, on fruit-stalks. *LINN.*—It has the leaves of a *Fragaria*, but in its fructification it has a greater affinity with
Poten-

Potentilla, between which genera it forms the connecting link.
 CURT.—*Branches* trailing, never creeping. *Leaves* oval, bluntly serrated. Mr. WOODWARD.

Barren pastures, heaths, and hedges.

P. Apr. May.

690. POTENTIL'LA. Cinquefoil.

EMPAL. *Cup* 1 leaf; somewhat flat; with 10 shallow clefts; segments alternately smaller; reflected.

BLOSS. *Petals* 5; roundish, (or heart-shaped, WITH.) expanding; fixed by claws to the cup.

CHIVES. *Threads* 20; awl-shaped; shorter than the petals; fixed to the cup. *Tips* in the shape of a long crescent.

POINT. *Seed-buds* numerous; very small; forming a knob. *Shafts* thread-shaped; as long as the chives; from the sides of the seed-buds. *Summits* blunt.

S. VESS. none. *Receptacle of the seeds* roundish; dry; very small; permanent; covered with seeds; inclosed in the cup.

SEEDS numerous; tapering.

ESS. CHAR. *Empal. clefts* 10. *Petals* 5. *Seeds* roundish; naked; fixed to a small juiceless receptacle.

* *Leaves* winged.

POTENTIL'LA *fruticosa*. Leaves winged. Stem shrubby shrubby.—

Walc.—*H. ox.* ii. 23. row 3. f. 3d.—*R. cat. ed.* ii. at p. 228, cop. in *Pet.* 41. 8.—*Amman.* 17 and 18. 1.

Whole plant set with fine silvery hairs. *Stems* reddish. *Leaflets* strap-spear-shaped, turned back at the edges, dark green above, pale underneath. *Leaves* hardly to be called winged, consisting of 2 pairs set cross-wise, rising from the same point, with a terminating one divided down to the base into 3 open segments. *Bloss.* yellow. WITH.

On the south banks of the Tecs below Thorpe, and Eggleston Abbey, and also near Greta Bridge and Mickel Force Teesdale, Yorkshire. S. June.

The beautiful appearance of its numerous flowers has gained it admittance into gardens. Besoms are made of it.

Cows, Horses, Goats, and Sheep eat it. Swine refuse it.

POTEN-

Silver-weed **POTENTIL'LA** *Anseri'na*. Leaves winged, serrated. Stem creeping. Fruit-stalks with 1 flower.—

Curt. iii. 34.—*Fl. dan.* 544.—*Matth.* 1016, *cop. in* *Dod.* 600. 1, *repr. in* *Lob. ic.* i. 693. 1, *obs.* 395. 1, *Ger. em.* 993, *cop. in* *Park.* 593, *imitated in* *Ger.* 841, *and abridged in* *Pet.* 41. 11.—*Fuchf.* 619, *cop. in* *J. B.* ii. 398. h, *and cop. in* *H. ox.* ii. 20. row 2. 4.—*Trag.* 480, *imitated in* *Lonic.* i. 240. 2.—*Blackw.* 6.

Wires leafy. *Leaflets* 10 to 12 pair, the intermediate ones longest. *Fruit-stalks* naked. *Blossoms* yellow. **RELH.**—*Empal.* clefts sometimes 10; the lower ones cut. **Mr. HOLLEFEAR.**—With long creeping *wires*. *Leaves* silvery and white underneath; *leaflets* curiously folding themselves up. *Receptacle* hairy. **WITH.**

Silver-weed. *Wild Tansey.* *Goose-grafs.* *Goose Tansey.*

Sides of paths and roads, and in low pastures, especially where water has stood during winter. **P. June. July.**

The leaves are mildly astringent. Dried and powdered they are given with success in agues. The usual dose is a meat spoonful of the powder every 3 hours between the fits. The roots in the winter time eat like parsneps. Swine are fond of them.

Cows, Horses, Goats, and Swine eat it. Sheep refuse it.

rock **POTENTIL'LA** *rupef'tris*. Leaves winged, alternate. Leaflets 5, egg-shaped, scolloped. Stem upright. **LINN.**—Leaves winged and 3-fingered. *Wires* none. **MURR. ST.**

Jacq. austr. ii. 114.—*Clus.* ii. 107. 1, *repr. in* *Ger. em.* 991, *and cop. in* *Park.* 397. 7, *and* *Pet.* 41. 6.—*J. B.* ii. 598. d. 2.—*H. ox.* ii. 20. row 1. 1.

Leaflets 5, 7, and 9. *Blossoms* white. **GOUAN.**—Whole plant hairy. Stem forked above. *Leaves*, *serratures*, and *segments of the empalement*, tipped with scarlet or purple. **WITH.**

On the sides of Craig Wreidhin, Montgomeryshire. **P. July.**
Cows, Horses, Goats, and Sheep eat it.

* * *Leaves fingered.*

Tormentil **POTENTIL'LA** *argen'tea*. Leaflets 5, wedge-shaped, jagged, downy underneath. Stem upright.—

Ger. 838. 7, *cop. in* *Ger. em.* 988. 7, *and* *Pet.* 41. 5.—*Fl. dan.* 865, *points of the leaves too sharp.*—*Matth.* 1020.—*J. B.* ii. 398. c. 1.—*H. ox.* ii. 19. 11.—(*Fuchf.* 625, *seems a different species.*)

Meadows and pastures in a gravelly soil. [Side of the turnpike road in the parish of Holt Castle, Worcestershire. **Mr. BALLARD.**]

P. June.

Goats

Goats and Swine eat it. Sheep, Horses, and Cows refuse it.

POTENTIL'LA *opa'ca*. Root-leaves 5-fingered, *hairy* wedge-shaped, ferrated. Stem-leaves nearly opposite. Branches thread-like, drooping.—

Clus. ii. 106. 3, *repr. in Ger. em.* 989. 9, and *cop. in Park.* 399. 4, *J. B.* ii. 398. a. 2, and *Pet.* 41. 4.

Root black, fibrous, with a number of black fibres furrounded with the rudiments of leaves proceeding from the head. Stems many, a span high, thread-like, green, with long scattered soft hairs. *Leaflets* sometimes 7, and sometimes, though more rarely 9, dented at the end, deeply ferrated throughout their whole length, the outer gradually smaller, green, not glossy, but sprinkled, especially underneath, with white soft hairs. *Fruit-stalks* several, as long as one's finger, woolly. *Floral-leaves* broad, cloven, opposite, fitting, often consisting of 3 leaflets running into 1. *Petals* nicked, yellow. *Pointals* hairy. Like the *P. verna*, but the stems green, more woolly, and more hair-like; root-leaves with 7 leaflets, more woolly, larger, and the root black. LINN.

Pastures near Kippax, 3 miles from Pontefract. RAY. HUDS.

P. June. July.

I have the best authority for believing, that the plant, inserted by Mr. Hudson in the Fl. angl. under this name, is no other than *P. verna*. CURT. bot. excurs.

POTENTIL'LA *ver'na*. Root-leaves 5-fingered, *spring* sharply ferrated, dented at the end. Stem-leaves 3-fingered. Stem reclining.—

Clus. ii. 106. 2,* *repr. in Ger. em.* 988. 3, and *cop. in J. B.* ii. 398. a. 1.—*Crantz.* ii. 1. 1, *foliage.*—*Ger.* 838. 8.

Root below cloathed with broad rusty-coloured scales, but throwing out several stems from its head. Stems not creeping, ascending, purplish, very much branched, thread-like, scarce perceptibly sprinkled with hairs, with many flowers. *Leaf-scales* entire, broad, pointed, growing to the leaf-stalk. *Leaf-stalks* long, somewhat hairy. *Leaflets* sitting, naked, deeply ferrated towards the end, with the ferratures somewhat hairy; the uppermost with shorter ferratures, and, as it were, dented at the end; the lateral ones shorter, broader, and often cloven. *Floral-leaves* broader than the leaf-scales, with often 3 sitting leaflets. *Fruit-stalks* solitary,

* None of the leaves with 5 leaflets, though described as such by Clusius.

long, somewhat hairy. *Petals* yellow, nicked, with sometimes a tawny spot at the base, sometimes without. *Clives* and *pointals* yellow. *Plant* when grown to maturity becomes nearly smooth. LINN.—Whole *plant* beset with soft, shining, silky hairs. *Root-leaves* roundish, on long leaf-stalks; *leaflets* wedge-shaped, fitting, serrated, and truly dented at the top, entire downwards, the upper one the largest. *Stems* numerous. *Stem-leaves* with 3 clefts. *Leaf-scales* in pairs, spear-shaped, embracing the stem. *Fruit-stalks* terminating, and from the bosom of the leaves, long, slender, each with 1 flower. *Flower-scales* spear-shaped. *Empal.* segments not very unequal, half as long as the blossom. *Petals* inversely-heart-shaped. MR. WOODWARD.—*Petals* uniformly yellow, or sometimes orange-coloured at the base. LIGHTF.

Rocky mountainous pastures, and barren meadows. Near Preston, Giggleswick, Yorkshire, Gloggaeth, Caernarvonshire. PENN.—Top of Creg-chaillech, near Finlarig, Breadalbane. [King's Park, Edinburgh, on the south west side of Arthur's Seat. HOPE. LIGHTF.—And Salisbury Craggs. ST.—Near Carr End Wensleydale, Yorkshire. CURT.—Canham Heath, near Bury, Suffolk. MR. WOODW.] P. [Apr. ST.] May. June.

Horses, Cows, Goats, and Sheep eat it.

white POTENTIL'LA *al'ba*. Leaves 5-fingered, serrated at the end; points of the serratures approaching to the margin. Stems thread-like, trailing. Receptacles hairy.—

Jacq. austr. 115.—Clus. ii. 105. 1, repr. in Ger. em. 989. 10, and cop. in Park. 396. 2, and J. B. ii. 398. e. 2.—Trag. 507, cop. in Ger. 839.—Fuchf. 623, cop. in J. B. ii. 398. e. 1.

Leaflets entire, except towards the end; serratures 5 to 7, slightly downy above, underneath paler and more downy, with the veins and edges white with a silky down. *Leaf-stalks* downy. *Fruit-stalks* long, slender, downy, with 1 flower. *Flower-scales* spear-shaped, 2 to each fruit-stalk, *Empalement* downy. *Petals* white, inversely heart-shaped, as long as the empalement. MR. WOODWARD.

In Wales.

P. July. Aug.

common POTENTIL'LA *rep'tans*. Leaves 5-fingered. Stem creeping. Fruit-stalks with 1 flower.—

Ludw. 116.—Curt. i. 5.—Walc.—Lonic. i. 216. 2.—Fuchf. 624, cop. in J. B. ii. 397, and Lonic. i. 216. 1.—Blackw. 454.—Matth. 1018, imitated in Ger. 836. 1, and also in Dod. 116. 1; which repr. in Lob. ic. 690. 1, obs. 393. 3, Ger. em. 987. 1, and cop. in Fct. 41. 3.—Park. 399. 1.—H. ex. ii. 19. 7.—(Fl. aar. 589, is *Tormentilla erecta*.) Stem

Stem and fruit-stalks cylindrical. Leaves, segments ending in purplish points; leaflets sometimes 3. Flower-scales spear-egg-shaped, in pairs. WITH.

Cinquefoil. Five-leaved-grass.

Meadows, pastures, and road sides.

P. June.—Sept.

The red cortical part of the root is mildly astringent and antiseptic. A decoction of it is a good gargle for loose teeth and spongy gums.—Horses, Cows, Goats, and Sheep eat it.

β. Petals 4 and 5 in the same plant. HUDS.

Tormentilla reptans, which see.

γ. HUDS. Leaves 3-fingered. PLUK.

*** *Leaves 3-fingered.*

POTENTIL'LA *Tormentill'la*. Leaves 3-fingered. *Tormentil*
Empalement with 8 clefts. Petals 4. ST.*

Ludw. 174.—Blackw. 445.—Fl. dan. 589, as it appears when the first shoots have been bitten down in the spring.—Park. 394. 1.—Fuchf. 260, cop. in J. B. ii. 398. g. 2.—Sheldr. 47.—Trag. 593.—Matth. 947, imitated in Dod. 118, which repr. in Lob. obs. 395. 2, ic. 696. 2, Ger. em. 992, and cop. in H. ox. ii. 19. 13, and Pet. 41. 9; and imitated again in Ger. 840.

Shafts (in Lapland) generally 8, often 16, and sometimes 4. LINN.—Stems generally declining. Flowering branches ascending. Leaf-scales in pairs, wedge-shaped, deeply divided into 3 or more lobes. Mr. WOODWARD.—Stem (most frequently) trailing, and at length ascending. Leaves of a beautiful green. Root-leaves on leaf-stalks; leaf-stalks shorter than the breadth of the leaflets; leaflets serrated. Empal. the 4 smaller segments on the outside of the other 4. Petals sometimes 5, of a fine yellow, with an orange-coloured blotch at the base; claws very short. Chives 14 to 18. Pointals 6 to 116. Receptacle woolly. WITH.

Potentilla. Tormentilla erecta. SCOP.—*P. sylvestris*. NECKAR.

Tormentil. Septfoil.

Moors, barren pastures, and shady places.

P. June.—Aug. [Sept. WITH.]

The roots may rank with the strongest vegetable astringents, and as such have a place in the modern practice of physic. They are used in several countries to tan leather. Farmers find them very efficacious in the dysenteries of cattle. They dye red.

Cows, Goats, Sheep, and Swine eat it. Horses refuse it. LINN.

A Horse eat it. ST.

* *Foliis ternatis, calyce octofido, corollis tetrapetalis.* ST,

691. TORMENTIL'LA. Tormentil.

EMPAL. Cup 1 leaf; flat; with 8 clefts; every other *segment* smaller and sharper.

BLOSS. *Petals* 4; inversely heart-shaped; flat; expanding; fixed by claws to the cup.

CHIVES. *Threads* 16; awl-shaped; half as long as the petals; fixed to the cup. *Tips* simple.

POINT. *Seed-buds* 8; small; approaching so as to form a knob. *Shafts* thread-shaped; as long as the chives; fixed to the sides of the seed-buds. *Summits* blunt.

S. VESS. none. *Receptacle of the seeds* very small; loaded with seeds, and inclosed by the cup.

SEEDS 8; oblong; taper; but ending in a blunt point.

ESS. CHAR. *Empal. clefts* 8. *Petals* 4. *Seeds* round; bare; fixed to a small juiceless receptacle.

OBS. *Tormentilla* differs from *Potentilla* only in the number of parts. They might therefore be very properly united into one genus.

common TORMENTIL'LA *erecta*. Stem nearly upright. Leaves sitting.—

Potentilla Tormentilla, which see.

β. CURT. cat. *T. reptans*, which see.

creeping TORMENTIL'LA *reptans*. Stem creeping. Leaves on leaf-stalks.—

Walc.—*Pet.* 41. 10.

Petals frequently 5. LIGHTF. WITH.—and segments of the empalement 10. WITH.—*Flowers* with 5 and 4 petals on the same plant. HUDS.—All the leaves on leaf-stalks. *Leaflets* 3, wedge-shaped, generally on short leaf-stalks, serrated upwards, entire at the base; the upper frequently with 3 clefts. *Leaf-scales* spear-shaped, entire, with 2 or 3 clefts. MR. WOODWARD.

Potentilla reptans. β. HUDS.

Potentilla reptans, when planted in a garden, frequently varies with 4 and 5 petals. This, I conjecture, has induced Mr. Hudson to make it a variety of *P. reptans*. If a variety of any thing it must be of *Tormentilla erecta*, but I believe it to be a distinct species. MR. WOODW.—It appears to me to be an intermediate species, connecting the *Potentilla reptans*, and *Tormentilla erecta*. ST.

Woods and sandy barren pastures. [Lahenham, near Norwich. Mr. CROWE. Berkhamstead, Herts. Mr. WOODW.] P. June. July.

692. G E ' U M. Bennet.

EMPAL. *Cup* 1 leaf; with 10 clefts; nearly upright; *segments* alternately very finall and sharp.

BLOSS. *Petals* 5; rounded; *claws* narrow; as long as the cup; fixed to the cup,

CHIVES. *Threads* numerous; awl-shaped; as long as the cup; fixed to the cup. *Tips* short; rather broad; blunt.

POINT. *Seed-buds* numerous; forming a knob. *Shafts* long; hairy; from the sides of the seed-buds. *Summits* simple.

S. VESS. none. *Receptacle of the seed* oblong; hairy; standing upon the reflected cup.

SEEDS numerous; compressed; covered with strong hairs, and armed with a long and jointed awn formed of the shaft.

ESS. CHAR. *Empal. clefts* 10. *Petals* 5. *Seeds with a jointed awn.*

G E ' U M *urba'num*. Flowers upright. Fruit globular, common woolly. Awns hooked, bare. Leaves lyre-shaped.—

Ludw. 36.—*Curt.* ii. 19.—*Blackw.* 253.—*Walc.*—*Fl. aan.* 672.

—*Fuch.* 334.—*Pet.* 40. 1.—*Ger.* 542. 1.—*Matth.* 984, *cop.*

in Clus. ii. 202. 2, *repr. in Dod.* 137. 1, *Lob.* ic. 693. 2, *obs.*

396. 2, *Ger. em.* 994. 1, and *cop. in Park.* 136. 1, and *H. ox.* iv.

26. row 2. 1 and 2.—(*J. B.* ii. 398. l. is *memone Hepatica.*)

Leaf-scales toothed. LINN.—*Stem* somewhat angular. *Leaves* winged, hairy, with 2 pair of leaflets; the lower pair circular, jagged and toothed, unequal; the upper pair egg-spear-shaped, jagged and toothed; and an odd one larger than the rest, frequently cloven into 3 segments. The 1st pair Linnæus considers as props. *Petals* yellow; *claws* very short. *Threads* about half as long as the larger segments of the empalement. *Tips* smooth. *Seed-buds* hairy. *Shaft* smooth, purple, fixed to the top of the seed-bud, with a double flexure towards the end, the part above the flexure expanding. WITH.

Common Awns. Herb Bennet.—Woods and hedges. P. June. Aug.

The roots, gathered in the spring, before the stem grows up, and put into ale, give it a pleasant flavour, and prevent its going sour. Infused in wine it is a good stomachic. Its taste is mildly austere and aromatic, especially when it grows in warm dry situations; but, in shady moist places, it has little virtue.

Cows, Goats, Sheep, and Swine eat it. Horses are not fond of it.

large flowered β . HUDS.—*Fuchf.* 385, *cop. in Trag.* 37.

Tedford Wood in the Welds, Lincolnshire, and in Cambridgehire. RAY.

water GE'UM *riva'le*. Flowers nodding. Fruit oblong. Awns feathered, twisted.—

Fl. dan. 722.—*Lob. ic.* i. 694.—*Clus.* ii. 203. 1, *repr. in Ger. em.* 995. 4, and *cop. in Pet.* 40. 3, and *H. ox.* iv. 26. 7.—*J. B.* ii. 398. n. 2.

Awns hairy. LINN.—*Upper-leaves* with 3 or 4 lobes. *Leaf-scales* undivided, or jagged. *Fruit-stalks* purplish, becoming less bent when the seeds ripen. *Empalement* oblong, lopped at the base, greenish purple, cloven half way down; segments slightly bent outwards, nearly wedge-shaped, slightly nicked at the end, as long as the empalement, streaked, of a dilute deadish red. *Threads* nearly as long as the blossom, crooked at the top. *Tips* double. *Seed-vessel*, receptacle of the seeds on a fruit-stalk. Awns reddish purple. WITH.

Varies with double and proliferous flowers. RELHAN.

Water Awns.

Moistish mountainous pastures about Settle, and Ingleton in Yorkshire. RAY. CURT.—And about Snowdon. [Sides of rivers and mountains in the North, common. MR. WOOD,—Near Norwich. MR. PITCHFORD.—Marham, near Swaffham. MR. WOODWARD.—Water of Leith, near Edinburgh. ST.]

P. June. July.

The powdered root will cure tertian agues, and is daily used for that purpose by the Canadians.

Sheep and Goats eat it. Cows, Horses, and Swine are not fond of it. LINN.

It is made use of to cure ropy malt liquor. ST.

693. DRY'AS. Avens.

EMPAL. *Cup* 1 leaf; with 5 or 8 divisions; *segments* expanding; strap-shaped; blunt; equal; somewhat shorter than the blossom.

BLOSS. *Petals* 8 or 5; oblong; nicked; expanding; fixed to the cup.

CHIVES. *Threads* numerous; hair-like; short; fixed to the cup. *Tips* small.

POINT. *Seed-buds* many; small; crowded together. *Shafts* hair-like; from the sides of the seed-buds. *Summits* simple.

S. VESS. none.

SEEDS numerous; roundish; compressed; retaining the shafts; which grow very long and woolly.

ESS. CHAR. *Empal.* clefts 5 or 10. *Petals* 5 to 8. *Seeds* with tails; hairy.

DRY'AS octopet'ala. Petals 8. Leaves simple.— mountain

Penn. hebr. 33. at p. 285.—Fl. dan. 31.—Clus. i. 351. 2, repr. in Ger. em. 659. 6.—Ger. 533. 4, in seed.—Lob. adv. 209, repr. in ic. i. 495. 1, foliage.—Gisek. iii. 66.—Lob. obs. 260. 2, repr. in ic. 495. 2, and cop. in Park. 106. 1, in seed, leaves pointed.—(J. B. iii. 290. 1, is *Salvia pratensis*.)

Leaves very blunt, and almost nicked. Root-leaves egg-shaped, bent back at the edge, perennial, white underneath. Stalk bare, with 1 flower. Blossoms flat, falling off, of a snowy white. Seeds oblong. LINN.—Leaves oval, between scalloped and notched; serratures blunt, deep. Leaf-stalks, each fixed to the end of a leaf-scale. Leaf-scales inversely halberd-shaped, embracing the stem. Fruit-stalks naked. Mr. WOODWARD.—The structure of the leaf-scales render this genus the connecting link between *Rosa*, and the rest of the *Senticosæ*. ST.

High mountains. On those between Gort and Galloway, and near Sligo, in Ireland; and on those on Breadalbane, Isle of Skye, Rosshire; Sutherland, and Argylesh. RAY. and Messrs. STUART and LIGHTF.—On Arncliffe Clowder in Littendale, near Kilnsay, Yorksh. CURT.—[Near Settle, Yorksh. Dr. FELL.] P. June.

A delicate evergreen plant, and, with its snow-white blossoms, is a beautiful ornament to our alpine heights.

Neither Cows, Horses, Sheep, Goats, or Swine will eat it. LINN.

694. CO'MARUM. Marshlocks.

EMPAL. *Cup* 1 leaf; with 10 shallow clefts; coloured; *segments* alternately smaller, and placed under the others; permanent.

BLOSS. *Petals* 5; oblong; tapering; 3 times smaller than the cup, to which they are fixed.

CHIVES. *Threads* 20; awl-shaped; fixed to the cup; as long as the blossom; permanent. *Tips* in the shape of a crescent; deciduous.

POINT. *Seed-buds* numerous; roundish; very small; forming a knob. *Shafts* simple; short; fixed to the sides of the seed-buds. *Summits* simple.

S. VESS. none. *Receptacle of the seeds* shaped like a double purse; fleshy; large, permanent.

SEEDS numerous; taper; covering the receptacle.

ESS. CHAR. *Empal.* clefts 10. *Petals* 5; smaller than the empalement. *Receptacle of the seeds* egg-shaped; spongy; permanent.

purple CO'MARUM *palustre*.—

Fl. dan. 636.—*Ger.* 836. 4.—*J. B.* ii. 398. c. 2.—*Dod.* 117. 2, repr. in *Lob. ic.* 691. 1, *Ger. em.* 987. 4.

Stems cylindrical, branched. *Leaves* alternate, on leaf-stalks, winged. *Leaflets* 5, oblong, serrated, pale beneath. *Lower leaf-stalks* embracing the stem; the upper with winged leaf-scales growing to them. *Flowers* in panicles. *Floral-leaves* spear-shaped. *Empal.* every other segment very narrow and very short. *Seeds* egg-shaped. LYONS.—*Leaves* above slightly hairy, underneath downy; *leaf-stalks* downy; *lower-leaves* on long leaf-stalks; *leaflets* 5 or 7, on short leaf-stalks, the odd one the largest, and the lower pair smallest, oval, deeply and sharply serrated; *leaf-stalks* with broad leaf-scales bluntly spear-shaped, embracing the stem. *Upper-leaves* on short leaf-stalks, with oval-spear-shaped leaf-scales; *leaflets* 5 or 3; others simple with spear-shaped leaf-scales. *Fruit-stalks* numerous, each with a single flower. *Floral-leaves* spear-shaped, small, a pair to each fruit-stalk. *Empalement* and *petals* dark purple, pointed. *Chives*, *shafts*, and *receptacle* black. MR. WOODW.—*Stems* cylindrical, upright, a little hairy. *Leaf-stalks* at the bottom spreading out into a sheath. *Leaflets* spear-shaped, deeply serrated. *Empal.* the 5 upper segments spear-shaped, pointed, coloured on the inside; the other 5 spatula-shaped, very small, sometimes cloven.

Petals

Petals spear-shaped, sharp-pointed, marone-coloured. *Chives* 20 to 30, mulberry-coloured. *Tips* heart-shaped. *Dust* yellow. *Shafts* marone-coloured. *Summits* with sometimes a drop of transparent liquor. *Receptacle* conical, a little woolly. WITH.

Marsh Cinquefoil.

Muddy putrid marshes. [Giggleswick Tarn, near Settle. CURT.—Norfolk, not unfrequent. Mr. WOODWARD.—Boggy places, near Bromsgrove Lickey, Worcestershire. NASH.]

The root dyes a dirty red. The Irish rub their milking-pails with it, and it makes the milk appear thicker and richer.

Goats eat it. Cows and Sheep are not fond of it. Horses and Swine refuse it.

β. Differs only in the leaves being hairy, which hairiness also it loses in the following year. LINN.

Pluk. 212. 2, *cop. in Pet.* 41. 2.

Class

Class XIII.

P O L Y A N D R I A.

M A N Y C H I V E S.

IN this Class the Chives are numerous, and stand upon the RECEPTACLE; whereas, in the preceding Class they are placed upon the *Sides* of the CUP, or upon the PETALS. A regard to this circumstance of the *Situation*, is of more importance than an attention to the *Number* of the chives.

Most of the plants of this Class are poisonous.

Order

*Order I.**MONOGYNIA; I. POINTAL.** *Petals 4.*

704. PAPA'VER. Cup 2 leaves. Capsule 1 cell;
crowned.
703. CHELIDO'NIUM. Cup 2 leaves. Seed-vessel 2 Pod.
700. ACTÆ'A. Cup 4 leaves. Berry 1 cell. Seeds
in a double row.

** *Petals 5.*

728. CIS'TUS. Capsule nearly globular. Cup 5
leaves; 2 smaller than the rest.
717. TIL'IA. Caps. 5 cells; like leather. Seed
1. Cup deciduous.

† Delphinium Consolida.

*** *Petals many.*

709. NYMPHÆ'A. Berry many cells; outer coat like
bark. Cup large.

*Order II.**DIGYNIA; II. POINTALS.*

† Poterium sanguiforba.

*Order III.**TRIGYNIA; III. POINTALS.*

736. DELPHIN'IUM. Cup 0. Blofs. 5 petals; upper
petal horned-shaped. Honey-
cup cloven; fitting.

† Chelidonium hybridum. Refeda Luteola.

Order

*Order IV.**TETRAGYNIA; IV. POINTALS.*

† *Myriophyllum verticillatum.* RETZ. fl.

*Order V.**PENTAGYNIA; V. POINTALS.*

741. *AQUILE'GIA.* *Cup* o. *Blofs.* 5 petals. *Honey-cups*
5; horned in the lower part.

† *Papaver cambricum.*

*Order VI.**HEXAGYNIA; VI. POINTALS.*

744. *STRATIO'TES.* *Cup* with 3 divisions. *Blofs.* 3 pe-
tals. *Berry* with 6 cells in a
sheath.

† *Papaver cambricum.*

*Order VII.**POLYGYNIA; MANY POINTALS.*

754. *CLE'MATIS.* *Cup* o. *Blofs.* 4 petals. *Seeds* many;
with awns.

755. *THALIC'TRUM.* *Cup* o. *Blofs.* 4 or 5 petals. *Seeds*
many; without awns; naked.

760. *HELLEB'ORUS.*

760. HELLEB'ORUS. *Cup* 0. *Blofs.* 5 petals; permanent. *Honey-cups* many. *Capsf.* many feeds.
761. CAL'THA. *Cup* 0. *Blofs.* 5 petals. *Capsules* many. *Honey-cups* 0.
751. ANEMO'NE. *Cup* 0. *Blofs.* 6 petals. *Seeds* many.
758. TROL'LIUS. *Cup* 0. *Blofs.* 14 petals. *Honey-cups* narrow. *Capsf.* 1 feed.
756. RANUN'CULUS. *Cup* 5 or 3 leaves. *Blofs.* 5 (or 8, WITH.) petals. *Seeds* many. *Petals* with a honey-cup in the claw.
- FICA'RIA. (HUDS.) *Cup* 3 leaves. *Blofs.* about 8 petals, each with a honey-cup in its claw. *Seeds* naked.
755. ADO'NIS. *Cup* 5 leaves. *Blofs.* 5 or 10 petals. *Seeds* many; angular; covered with a thick skin.

† *Nymphæa alba.* *Papaver somniferum.*

Order I.

MONOGYNIA; I. POINTAL.

700. ACTÆ'A. Bane-berry.

EMPAL. *Cup* 4 leaves; circular; blunt; concave; shedding.BLOSS. *Petals* 4; tapering each way; larger than the cup; shedding.CHIVES. *Threads* about 30; hair-like; broader towards the top. *Tips* roundish; double; upright.POINT. *Seed-bud* egg-shaped. *Shaft* none. *Summit* thickish; obliquely depressed.S. VESS. *Berry* oval-globular; smooth; with 1 furrow, and 1 cell.

SEEDS many; semi-circular; lopped on the inner side; standing in a double row.

ESS. CHAR. *Petals* 4. *Empal. leaves* 4. *Berry, cell* 1. *Seeds* semi-circular.*Spiked* ACTÆ'A *spica'ta*. Bunch egg-shaped. Berries juicy.—*Blackw.* 565.—*Fl. dan.* 498.—*Clus.* ii. 36. 2, repr. in *Dod.* 402.1, *Lob. obs.* 389. 1, *ic.* i. 682. 1, *Ger. em.* 979, and cop. in*Park.* 379. 1.—*Ger.* 829.—*H. ex.* i. 2. 8.—*J. B.* iii. 660. 1.*Petals* rhomb-shaped, flat, membranaceous. *LENN.*—*Leaflets* oval-spear-shaped, cut-ferrated, smooth, deep green; the terminating one with 3 lobes. *Mr. Woodw.*—*Stem* slender, jointed, scored.*Blossoms* white. *Berries* black. *WITH.**Herb Christopher.* Bane-berries.Woods and shady places. Near Malham Cove, and in a wood near Clapham, Yorkshire. [Whitfell Gill, or Arthur's Foss, near Askrig, Yorksh. *CURT.*—On Ingleborough. *Mr. Woodw.*—And in the fissures of the very curious natural pavement of limestone at the foot of it. *ST.*—About Thorp Arch, and in Wensley Dale, near Askrig, Yorkshire. *Mr. Wood.*] P. May. June.

The plant is a powerful repellent. The root is useful in some nervous cases, but it must be administered with caution. The berries are poisonous in a very high degree. It is said that toads, allured

allured by the foetid smell of this plant, resort to it; but it grows in shady places, and toads are fond of damp and shady situations. Sheep and Goats eat it. Cows, Horses, and Swine refuse it.

703. CHELIDONIUM. Celandine.

EMPAL. *Cup* roundish; *leaves* 2; somewhat egg-shaped; concave; blunt; shedding.

BLOSS. *Petals* 4; circular; flat; expanding; large; narrow at the base.

CHIVES. *Threads* about 30; flat; broader upwards; shorter than the blossom. *Tips* oblong; compressed; blunt; upright; double.

POINT. *Seed-bud* cylindrical; as long as the chives. *Shaft* none. *Summit* a knob; cloven.

6. VESS. *Pod* cylindrical; generally with 2 valves.

SEEDS many; egg-shaped; shining; adhering to the little stalk that connects them with the receptacle. *Receptacle* narrow; situated between the seams of the valves, and applied close to the seams through their whole length; continuing entire.

ESS. CHAR. *Petals* 4. *Empal. leaves* 2. *Pod* strap-shaped; cell 1.

Obs. The seed-vessel of the 2d species is a pod like 2 capsules; that of the 3d species is a pod with 3 valves.

CHELIDONIUM *ma'jus*. Fruit-stalks forming common bundles.—

Ludw. 132.—*Fl. dan.* 542.—*Blackw.* 91.—*Mill.* 92. 1.—*Walc.*—

Fuchf. 865, *cop. in J. B.* iii. 432, and abridged in *Trag.* 107.

—*Ger.* 911.—*Clus.* ii. 203. 1, *repr. in Dod.* 48, *Lob. obs.* 440.

1, *ic.* i. 760. 2, *Ger. em.* 1069. 1, and *cop. in Park.* 617. 1.—

Lonic. i. 165. 3.—*Matth.* 628.—*H. ox.* iii. 2. row 1. 2.

Juice of the plant and blos. saffron-coloured, cross-shaped, in which, as also in its pod, it resembles the plants of the class *Tetradynamia*.

RELHAN.—*Stems* and *fruit-stalks* cylindrical, a little hairy. *Leaves* winged; segments nearly circular, scalloped. *Seed-bud* nearly cylindrical. *Summit* cylindrical, slightly cloven. *Threads* sometimes not more than 20. *Seed-vessel* cylindrical, but compressed. WITH, Greater Celandine.

Hedges, rough shady places, on rubbish, and uncultivated ground.

P. May.—July.

The

The juice of every part of this plant is very acrimonious. It cures tetters and ringworms. Diluted with milk it consumes white opake spots upon the eyes. It destroys warts and cures the itch. There is no doubt but a medicine of such activity will one day be converted to more important purposes.

Horses, Cows, Goats, Sheep, and Swine refuse it.

jagged

β. laciniatum.

Fl. dan. 676.—*Mill.* 92. 2.—*J. B.* iii. 483.—*Clus.* ii. 203, *repr.* in *Ger. em.* 1069. 2, and *cop.* in *Park.* 617. 2.

C. laciniatum. Leaves with 5 lobes. Lobes narrow, sharply jagged. *MILL.*—who during the cultivation of it for upwards of 30 years could never perceive any alteration in it. *ST.*

Among the ruins of the Duke of Leeds's seat at Wimbleton.

sea

CHELIDO'NIUM *Glau'cium.* Fruit-stalks with 1 flower. Leaves embracing the stem, indented. Stem smooth.—

Fl. dan. 585.—*Fuchf.* 520, *cop.* in *J. B.* iii. 398.—*Trag.* 123.—*Clus.* ii. 91. 1, *repr.* in *Dod.* 448, *Lob. obs.* 141. 1, *ic.* i. 270. 2, *Ger. em.* 367. 1, and *cop.* in *Ger.* 294. 1, and *Pet.* 52. 7.—*Matth.* 1061, but the stems rough.—*Lonic.* 1. 82.—*H. ox.* iii. 14. 1. f. 1.—*Park.* 262. 1 and 2.

Plant sea-green. Leaves roughish; root-leaves with winged clefts; those of the stem only lobed. Blossoms yellow. Pods rough, separated by a partition into cells. *LINN.*—Stem much branched. Root-leaves waved, wing-cleft, and variously lobed and indented; wings gradually larger upwards; hairy on both sides. Stem-leaves embracing the stem, deeply indented, rough above, smooth beneath. Branches forked. Fruit-stalks thick, slightly hairy, with 1 or 2 flowers. Empalement large, oval, hairy. Petals large, egg-shaped, yellow. Pods very long, bent in various directions, terminated by an arrow-shaped summit. *MR. WOODWARD.*

Yellow Horned Poppy.

Sandy sea shores. [Norfolk and Suffolk coast, particularly about Dunwich; and Cartmel Sands and Roofsbeck, Lancashire. *MR. WOODWARD.*—Isle of Wight. *ST.*] A. July. Aug.

red

CHELIDO'NIUM *corniculatum.* Fruit-stalks with 1 flower. Leaves fitting, wing-cleft. Stem rough with hairs.—

Clus. ii. 91. 1, *repr.* in *Dod.* 449. 1, *Lob. obs.* 141. 2, *ic.* i. 271. 1, *Ger. em.* 367. 2.—*Ger.* 294. 2.—*J. B.* iii. 399. 1.

Plant green. All the leaves wing-cleft. Flowers reddish yellow. *LINN.*—*Plant* sea-green. Root spindle-shaped. Root-leaves in a circle.

circle, on short leaf-stalks; wings alternate, indented at the ends, the upper ones largest, the terminating ones broad, blunt, with 3 or 4 indentures, hairy. Stem slightly hairy, furrowed, forked, branched. Stem-leaves half embracing the stem, alternate. Fruit-stalks terminating, and from the bosom of the upper-leaves, slightly hairy, with sometimes 1 or 2 leaves, similar to those of the stem, but smaller. Empalement oval. Petals oval, deep orange, veined, with an elliptical purplish spot at the base of each. Capsule very long, nearly straight, terminated by a blunt knob, very hairy.

Mr. WOODWARD.

Sandy corn fields, Norfolk, discovered by Mr. Stillingfleet.

A. July. Aug.

CHELIDONIUM *hybridum*. Fruit-stalks with violet flower. Leaves wing-cleft, strap-shaped. Stem smooth. Pods with 3 valves.—

Clus. ii. 92. 2, repr. in Dod. 449. 2, Lob. 141. 3, ic. 272. 1, Ger. em. 367. 4, cop. in Park. 262. 3, J. B. iii. 399. 2, Pet. 52. 8, and H. ox. iii. 14. 2. f. 2, with the addition of a pod.

Summits 3. Pods with 3 furrows. Was it not originally produced by the dust of a species of *Chelidonium* impregnating the seed-buds of *Papaver Argemone*? LINN.—Root spindle-shaped. Stem upright, a foot high, branched, cylindrical, smoothish, having a few expanded bristles. Leaves with many clefts, smooth, segments toothed, pointed, very much like those of *Papaver hybridum*. Fruit-stalks terminating, cylindrical. Empalement hairy. Petals violet-coloured. Tips double, pale blue. Capsule 2 inches long, somewhat crooked, rough with a few hairs. Summit with 3 rays. LYONS.—Petals very soon shedding. RELH.—Root spindle-shaped, slender. Root-leaves on leaf-stalks. Stem-leaves fitting, simply or doubly winged; divisions strap-shaped, nearly equal, smooth. Stem slightly hairy. Fruit-stalks smooth. Empalement oval, slightly hairy. Petals egg-shaped, deep purple. Pods long, smooth, terminated with a roundish knob. Mr. WOODWARD.

Papaver caule ramoso, &c. Hort. upf. 136. n. 2. γ. (ST.)

Sandy corn fields. Between Swaffham and Burwell, Cambridge-shire. RAY. RELHAN.

A. July. Aug,

704. PAPA'VER. Poppy.

EMPAL. *Cup* egg-shaped; nicked at the end, *leaves* 2; somewhat egg-shaped; concave; blunt; shedding.

BLOSS. *Petals* 4; circular; flat; expanding; large; narrowest at the base; alternately smaller.

CHIVES. *Threads* numerous; hair-like; much shorter than the blossom. *Tips* oblong; compressed; upright; blunt.

POINT. *Seed-bud* nearly globular; large. *Shaft* none. *Summit* flat; large; radiate; crowning the seed-vess.

S. VESS. *Capsule* of 1 cell; divided half way into many cells; opening by several apertures beneath the crown.

SEEDS numerous; very small. *Receptacle* consisting of as many longitudinal plaits, as there are rays in the summit; connected to the sides of the seed-vessel.

ESS. CHAR. *Petals* 4. *Empal. leaves* 2. *Capsule* of 1 cell; opening by pores underneath the summit, which is permanent.

OBS. The *seed-vessel* varies in figure, from globular to oblong; and the number of rays in the summit are likewise various.

* *Capsules covered with strong hairs.*

rough headed PAPA'VER *hybridum*. *Capsules* nearly globular, with protuberating knobs, rough with hairs. Stem leafy, with many flowers.—

Lob. obs. 144. 1, *ic.* i. 276. 1, *repr. in Ger. em.* 373. 1, *cop. in Park.* 369. 1, *J. B.* iii. 396. 1, and *Pet.* 52. 5.—*H. ox.* iii. 14. 9.—*Ger.* 300. 1.

Capsule with 6 furrows like a melon. *Summit* 6-cornered. LINN.—*Stem* branched, beset above with hairs laid to, as in *P. dubium*. *Leaves* winged; wings somewhat winged, smooth above, edges somewhat rolled back, rough with bristles longer than the (breadth of the) nerves. *Petals* of a darkish dirty red, small. *Threads* deep purple. *Tips* pleasant blue. *Capsule* oblong, egg-shaped, channelled, the eminencies scattered over with tubercles beset with stiff bristles bowed upwards. RELH.—*Leaves* doubly wing-cleft; segments strap-shaped, nearly equal, the terminating one with 3 clefts; nearly smooth above, nerves underneath with strong hairs pointing upwards. *Branches* and *fruit-stalks* channelled, with strong hairs pointing upwards. *Empalement* with a few hairs, larger and broader

broader than that of *P. Argemone*. Capsules roundish-oval. Mr. WOODWARD.

Papaver caule ramoso, &c. Hort. ups. 136. n. 2. α. (ST.)

Round Rough-headed Poppy.

Corn fields. Near Norwich. Mr. PITCHFORD.—At Wells, Norfolk. Mr. CROWE. A. June. July.

PAPA'VER *Argemone*. Capsules club-shaped, rough *rough podded* with hairs. Stem leafy, with many flowers.—

Fl. dan. 867.—*J. B.* iii. 396. 2.—*Lob. obs.* 144. 2, *ic.* i. 276.

2, *Ger. em.* 373. 2, *cop. in H. ox.* iii. 14. 10, and *Pet.* 52. 6.

—*Ger.* 300. 2.

Leaves with 3 divisions, wing-cleft. Fruit-stalks rough. *Empal.* hairy. LINN.—Leaves winged; wings opposite, running down, spear-shaped, deeply wing-cleft, terminating one with 3 clefts; nearly smooth above, nerves and leaf-stalks rough underneath with diverging hairs. Stems and fruit-stalks with hairs pointing upwards. Petals wedge-shaped, narrow. Capsules elliptical, ribbed, and set with strong hairs. Mr. WOODW.—Root-leaves with a broad mid-rib, set with 3 or 4 pair of wings, and an odd one, each of which cloven into 3. Stem-leaves, segments narrower. Empalement very hairy. Petals transversely egg-shaped, plaited at the base, scarlet, with a black spot towards the base, white before the empalement opens. Seed-bud inversely conical. Summit, rays 5 to 8. Capsule, cells as many as rays on the summit; bristles strong, white, pointing upwards. WITH.

Corn fields.

A. June. July.

** Capsules smooth.

PAPA'VER *Rhæas*. Capsules smooth, globular. *corn* Stem hairy, with many flowers. Leaves wing-cleft, jagged.—

Curt. iii. 36.—*Blackw.* 560.—*Ludw.* 17.—*Fuchf.* 516. β.—*Trag.*

120. β.—*Ger.* 299. 1.—*Lonic.* i. 81.—*H. ox.* iii. 14. 6.—*Dod.*

447, repr. in *Lob. obs.* 143, *ic.* i. 275, *Ger. em.* 371. 1, and *cop.*

in *Park.* 366. 4, and *Pet.* 52. 2.—*Matth.* 1057.—*Blackw.* 2.—

(*Fuchf.* 514, *cop. in J. B.* iii. 395, the unopened flowers upright. It has the habit of a distinct species, and I believe it to be such.

I have seen it in gardens.)

Stem, hairs expanding. LINN.—Stem cylindrical, branched. Leaves hairy; leaflets strap-shaped, indented, serrated, the terminating one oblong, bluntish, somewhat awned. Fruit-stalks long; hairs expanding. Capsules roundish. Summit with 12 rays. LYONS.—Stem cylindrical, branched. Summit with rays. Blossoms scarlet.

Papaver erraticum minus. C. B. pin. 171, variety γ Linnæus, appears to me to be the very same plant. To the figures referred to by C. B. a β is subjoined. ST.

Red Poppy. Corn-rose. Cop-rose. Head-wark.

Amongst corn.

A. June. July. [and Nov. ST.]

The blossoms give out a fine colour, which is turned by alcalies to a dusky purple. ST.—An infusion of them made into a syrup is kept in the shops. It partakes in a small degree of the properties of opium.

Sheep and Goats eat it. Horses refuse it.

A variety frequently occurs with an oval shining black spot at the base of each *petal*, 4 lines long, and 3 wide. From this originate many beautiful varieties frequent in gardens. Mr. WOODWARD. —This is figured by Blackw. 560. ST.

smoothpodded

PAPA'VER *du'bium*. Capsules oblong, smooth. Stem with many flowers, with bristles laid to. Leaves wing-cleft, jagged. LINN.—Rather, fruit-stalks with bristles laid to. WITH. ST.

Curt. v. 50.—Walc.—H. ox. iii. 14. 11, cop. in Pet. 52. 3.—

(Jacq. fl. i. 25, is believed by De la Chenal, and, I think justly, to be a new species.)

Stem, bristles below straddling, towards the top laid to. LYONS. Mr. WOODWARD. ST. WITH.—*Stem* 3 feet high, cylindrical, branched, hairy, bristles below straddling. *Leaves* ribbed, hairy; leaflets wedge-shaped, indented, pointed, edge very entire. *Emfal.* leaves bowed inwards. *Summit*, rays 8 or 9. LYONS.—*Stem* on the lower part, from the uppermost leaves down to the root, the hairs expanding. Mr. WOODWARD. WITH. ST.—*Leaves* sea-green. *Petals* smaller than those of *P. Rhæas*, and of a more dilute red. Mr. WOODWARD. ST.—*Summit* with 7 and 8 rays. HALL. ST.—Sometimes 6, and the capsule with a corresponding number of ribs. ST.—*Leaves*, hairs expanding; segments 3 or 4 pair, spear-shaped, brown or yellowish at the point, and terminated by a small white bristle. *Capsule* sometimes egg-oblong. *Summit*, rays 6, 7, 8, 10. WITH.

Long Smooth-headed Poppy.—Corn fields.

A. June. July.

Cows and Goats eat it. Sheep are very fond of it. Horses refuse it.

white

PAPA'VER *somniferum*. Empalements and capsules smooth. Leaves embracing the stem, jagged.—

Blackw. 482. β . 483.—Dod. 445. 2, repr. in Lob. obs. 142. 1, ic.

i. 272. 2, Ger. em. 369. 1, and cop. in Park. 366. 2.—Fuchf.

518, fruit-

513, fruit-stalks hairy.—*Dod.* 445. 1, repr. in *Lob. obs.* 464. 1, ic. i. 274. 1, *Ger. em.* 369. 2. β .—*Park.* 365. 1.—*J. B.* 390.—*Math.* 1053, imitated in *Ger.* 296. 1.—*Ger.* 296. 2. β .—*Trag.* 122.—*Lob. obs.* 464. 1, ic. i. 274. 2, and *Ger. em.* 370. This last alone is referred to by Ray, but they are all one and the same plant.

Stem, leaves, empalement, and capsule smooth. Summits 10. LINN.—Petals white, tinged with purple, with large deep purple blotches at the base. RAY.

Wild Poppy.

Uncultivated neglected gardens. RAY.—Corn fields. HUDS.—Water-beach, and banks of the closes which separate Denny Farm from the Ely road. RELHAN.—[On rubbish. ST.] A. June. July.

Opium is the milky juice of this plant, inspissated by the heat of the sun. The Edinburgh College directs an extract to be prepared from the heads, i. e. the seed-vessels. This extract is supposed to be milder in its effects than the foreign Opium, but it requires double the quantity for a dose. A syrup, made with a decoction of the heads, is kept in the shops, under the name of Diacodion. The seeds are sometimes used to make emulsions, but they have nothing of the narcotic virtues of the other parts of the plant.

PAPA'VER *cambricum*. Capsules smooth, oblong. yellow Stem with many flowers, smooth. Leaves winged, jagged.

Dill. elth. 223. 290.—*Park.* 369. 4, cop. in *H. ox.* iii. 14. 12, and *Pet.* 52. 4.

Summits 5 or 6, distinct. Capsules oblong, narrower below, with a kind of beak at the end. LINN.—Leaves winged, nearly smooth; root-leaves on very long hairy leaf-stalks; wings 2 or 3 pair, oval-pear-shaped, deeply cut, almost lobed, the terminating one with 3 lobes; stem-leaves on short fruit-stalks, the upper sitting. Fruit-stalks slightly hairy, with 1 flower. Petals egg-shaped, pale yellow, scored towards the base. MR. WOODWARD.

Mountains of Wales, and about Kendal. [By the Ferry-house on Winander Mere, Westmoreland, and near Holker, Lancashire. MR. WOODWARD.]

P. June.—Aug.

709. NYMPHÆ'A. Water-can.*

EMPAL. *Cup* beneath; *leaves* 4; large; coloured on the upper surface; permanent.

BLOSS. *Petals* numerous; often 15; fixed to the side of the seed-bud; in more than 1 row.

CHIVES. *Threads* numerous; often 70; flat; crooked; blunt; short. *Tips* oblong; fixed to the borders of the threads.

POINT. *Seed-bud* egg-shaped; large. *Shaft* none. *Summit* circular; flat; central; fitting; marked with rays; scolloped at the edge; permanent.

S. VESS. *Berry* hard; egg-shaped; fleshy; rough; narrow at the neck; crowned at the top; with many cells, 10 to 15, filled with pulp.

SEEDS many; roundish.

ESS. CHAR. *Blossom* of many petals. *Empal.* leaves 4 or 5. *Berry* lopped; cells many.

yellow NYMPHÆ'A *lu'tea*. Leaves heart-shaped, very entire. Empalement of 5 leaves, larger.—

Fl. dan. 603, *flower and fruit*.—*Blackw.* 497. *a and b*, and 499. 1.—*Lonic.* i. 177. 2.—*Fuchf.* 536, *cop. in Trag.* 697, and *J. B.* iii. 771.—*Matth.* 894.—*Clus.* ii. 77. 2, *repr. in Dod.* 585. 2, *Lob. obs.* 324. 2, *ic.* i. 594. 2, *Ger. em.* 819. 2, and *cop. in Park.* 1252. 5, and *Pet.* 71. 3.—*Ger.* 672. 2.

Empal. leaves roundish. *Petals* very small. LINN.—*Leaf-stalks* 3-square. *Fruit-stalks* round. *Petals* thick in the middle, scored, wrinkled. *Chives* bowed back. *Berry* pitcher-shaped. Leaves of the empalement larger than the petals. RELH.—*Leaves* heart-shaped, with an oval outline. *Petals* much shorter than the empalement. MR. WOODWARD.—*Empal.* leaves roundish-oblong. ST.—*Leaves* egg-shaped, with a deep notch at the base. *Empal.* leaves yellow, except at the base on the outside where they are green. *Petals* fleshy, yellow. *Chives* after shedding their dust, bent back. *Seed-vessel*, cells often more than 15. *Flowers* on long fruit-stalks. WITH.

Yellow Water Lily.

Slow rivers, pools, and ditches. [River Avon, at Pershore, Worcesterfh. MR. BALLARD. MR. WALD. HILL.] P. July. Aug.

* *Water Lily* is contrary to Linnæus's rules for the construction of generic names. ST.

The roots, rubbed with milk, destroy Crickets and Cockroaches. Swine eat it. Goats are not fond of it. Cows, Sheep, and Horses refuse it. LINN.

An infusion of a pound of the fresh root, to a gallon of water, taken in the dose of a pint, night and morning, cured a leprous eruption of the arm. WITH.

NYMPHÆ'A *al'ba*. Leaves heart-shaped, very white entire. Empal. clefts 4.

Fl. dan. 602, *flower and fruit*.—*Blackw.* 498. *a and b*, and 499.—*Fuchf.* 535, *cop. in Trag.* 696, and *J. B.* iii. 770.—*Gmel.* iv. 71.—*Math.* 893.—*Ger.* 672. 1.—*Cluj.* ii. 77. 1, *repr. in Dod.* 585. 1, *Lob. obs.* 324. 1, *ic.* i. 595. 1, *Ger. em.* 819. 1, and *cop. in Park.* 1251. 1, and *Pet.* 71. 1.

Petals in several rows, resembling a double flower. The flower opens about 7 in the morning; closes about 4 in the afternoon, and then lies down upon the surface of the water. LINN.—*Leaf-stalks* and *fruit-stalks* round, within full of pores, 4 of which are generally larger than the rest; hairs interwoven between. *Empal.* leaves smaller than the outer petals. *Chives* nearly upright. *Berry* lopped. RELHAN.—*Summits* 17 or 18, placed in a circle, and corresponding with as many cells in the seed-bud. ST. Bot. ARR. ed. i.—*Petals* white. *Chives* fixed to the side of the seed-bud. *Tips* bowed. *Seed-bud* roundish, at the top concave, and marked with rays equal to the number of summits on the edge. *Summits* short, blunt, somewhat bowed in. *Berry* roundish, full of seeds. *Seeds* oblong. ST.—*Petals* as long or longer than the empalement. *Leaves* heart-shaped, with a roundish outline. MR. WOODWARD.

White Water Lily. *Water-can*; so called at Tamworth, from the half unfolded leaves floating on the water, being supposed to resemble cans. They call the leaves *can-leaves*. *Water-socks*; Worcester-shire. *Can-dock*; Worcester-shire. ST.

Slow rivers and ponds.

P. July.

The roots are used in Ireland, and in the Island of Jura, to dye a dark brown.

Swine eat it. Goats are not fond of it. Cows and Horses refuse it.

Both the species support the *Aphis aquatilis*, and *Leptura aquatica*.

717. TIL'IA. Lime.

EMPAL. *Cup* 5 divisions; concave; coloured; almost as large as the blossom; deciduous.

BLOSS. *Petals* 5; oblong; blunt; scolloped at the end.

CHIVES. *Threads* many; 30 or more; awl-shaped; as long as the blossom. *Tips* simple.

POINT. *Seed-bud* roundish. *Shaft* thread-shaped; as long as the chives. *Summit* blunt; with 5 edges.

S. VESS. *Capsule* like leather; globular; with 5 cells, and 5 valves; opening at the base.

SEEDS solitary; roundish.

ESS. CHAR. *Petals* 5. *Empal. divisions* 5. *Berry* dry; globular; cells 5; valves 5; opening at the base.

OBS. In general only 1 seed comes to perfection, and this pushes aside the others, which are barren; so that an incautious observer would be apt to pronounce, that the capsule has but 1 cell.

common TIL'IA *europæa*. Flowers without a honey-cup.—
Ludw. 48.—*Sheldr.* 50.—*Hunt. evel.* at p. 201.—*Fl. dan.* 553.—
Blackw. 469.—*Math.* 174.—*Ger.* 1298. 1.—*Dod.* 83^u, repr.
in Lob. obs. 606. 1, ic. ii. 188. 1, *Ger. em.* 1483. 1, and *cop.*
in Park. 1407. 2.—*Specēt. de la Nat.* ii. 33. 1. at p. 292, *cop. in*
Nat. delin. ii. 21. 3. at p. 312.—*Lonic.* i. 33. 3.—*Fuchf.* 862,
cop. in J. B. i. b. 133, and *Trag.* 1110.

Leaves heart-shaped, serrated. *Floral-leaf* yellowish green, nearly as long as the fruit-stalk, and attached to it for about half its length. *Blossoms* whitish. WITH.

Lime Tree. Linden Tree.

Woods and hedges.

T. July.

small-leaved γ. *Leaves* unequally serrated. *Fruit* cottony; cells 5. DU ROÏ.
Tilia cordata. MILL. DU ROÏ.

Small-leaved Lime or Linden Tree. Bast.

Effex, Suffex, and Lincolnshire. RAY.

elm-leaved δ. *Fruit* 6-cornered.

Whitstable, Surry, and near Darking. MERR.

red ε HUDS.—*Small branches* red. *Leaves* with a soft woolliness.
Fruit 4-cornered. RAY.

Red Lime.—Stoken-church Wood. RAY.

It flourishes best on the sides of hills, but it will live very well in meadow grounds. It is easily transplanted, and grass grows beneath it; it is useful to form shady walks, and clipped hedges. The wood is soft, light, and smooth; close grained, and not sub-

ject

ject to the worm. It makes good charcoal for gunpowder and for designers. It is used for leather cutters boards, and for carved work. It is also employed by the turner. The leaves are dried in some countries as winter food for Sheep and Goats. Cows eat them in the autumn; but they give a bad taste to the milk. The bark, macerated in water, may be made into ropes, and fishing nets. The flowers are fragrant, and afford the best honey for bees. The sap inspissated affords a quantity of sugar.

It supports the *SPHINX Tilæ*; *PHALÆNA lanestris*, *dispar*, *antiqua*, *Pfi*, *Bucephala*; *APHIS Tilæ*; *ACARUS telarius*.

728. CIS'TUS. Cistus.

EMPAL. Cup 5 leaves; permanent; circular; concave;
3 of them large; with 2 small ones interposed.

BLOSS. Petals 5; circular; flat; expanding; large.

CHIVES. Threads numerous; hair-like; shorter than the blossom. Tips roundish; small.

POINT. Seed-bud roundish. Shaft simple; as long as the chives. Summits flat; circular.

S. VESS, Capsule roundish; covered by the cup.

SEEDS numerous; roundish; small.

ESS. CHAR. Petals 5. Empal. leaves 5; 2 of them smaller. Fruit a capsule.

CIS'TUS *anglicus*. Somewhat shrubby, without *hairy* leaf-scales, trailing. Leaves opposite, oblong, rolled back at the edge, hairy. Flowers in bunches. LINN.—Leaves hoary underneath, somewhat rolled back at the edges. HUDS. ST.

Dill. *elh.* 145. 173.*—*J. B.* ii. 18, *not in flower or fruit*.

Stem scarcely 6 inches high, flanting, rough all over. Leaves opposite, spear-shaped, like those of hyssop, roughish, not smooth, green on both sides. Flowers in bunches, white, nodding, tho' when in bloom upright. LINN.—Stems numerous. Flowering branches ascending, hairy. Leaves egg-shaped, blunt, opposite, fitting, green on both sides but covered with white hairs. Bunches terminating, with 3 or 4 flowers, with small spear-shaped floral-leaves.

* Mr. WOODWARD. ST.—Dillenius gives this as a figure of the plant found by Newton, and inserted by Ray in his *syn.* 342, as the *Helianthemum alpinum folio Pilosellæ minoris Fuchsii* of *J. B.*—Dillenius's figure accords with specimens from Cartmell. Mr. WOODWARD.

leaves. *Empalement* without, green, hairy; within, yellowish, marked with green lines. *Petals* yellow, finely scolloped. Mr. Woodw. — *Petals* yellow. *Leaves* hoary underneath, except in one specimen, where those of the stem green on each side, and those of the side branches hoary. ST.

C. hirsutus of HUDSON, who retains his original name, even in his 2d edition, probably not sensible that Linnaeus had changed it, on account of the too great similarity of *hirsutus* and *C. hirtus* of the Sp. pl. ST.

Mountainous pastures and rocks. On the west side of Betham Bank, a mile from Kendal; Buckbarrowbank-scar, between Bridgsteer and Conswick, and about Cartmell Wells, Lancashire. RAY.—Gloddaeth, Caernarvonsh. PENN.—West foot of Bwrad Arthur, Anglesea. Mr. DAVIES in *Penn Wales* ii. 255.

S. LINN. ST. P. HUDS. May.

annual CIS'TUS *gutta'tus*. Herbaceous. No leaf-scales. Leaves opposite, spear-shaped, 3-fibred. Bunches without floral-leaves.—

Ger. em. 1281. 19, *cop. in Park.* 661. 3, and *J. B.* ii. a. 14. 1.

Whole plant with expanding hairs. Stem upright. Leaves sitting, opposite, 3 or 4 pairs. Bunch thread-shaped, often without floral-leaves. Flowers upright, but when just out of blossom pendant. Fruit upright. Petals with a black spot at the base. *Empal.* 2 of the leaves open. LINN.—Stem and leaves hairy. Bunches terminating. Fruit-stalks long, slender, without floral-leaves. Mr. WOODWARD.

Sandy pastures on M. Llech dduc, near Holyhead, Anglesea.

A. June.

willow-leaved CIS'TUS *salicifolius*. Herbaceous, with leaf-scales, open, woolly. Flowers in bunches, upright. Pedicles horizontal.—

Clus. i. 76. 2, *repr. in Lob. obs.* 552. 1; *ic.* ii. 118. 1, *Ger. em.* 1280. 17, and *cop. in Park.* 661. 7.

Empalement longer than the capsule. LINN.—Petals yellow, smaller than the empalement, very soon shedding, sometimes wanting. HUDS.

Sandy meadows and pastures near Brean-Down, Somersetshire.

A. June. July.

narrow-petaled CIS'TUS *surrejanus*. Somewhat shrubby, with leaf-scales, trailing. Leaves egg-oblong, somewhat hairy. Petals spear-shaped. LINN. CURT. *cat. n.* 529.

Dill. elth. 145. 174.

Blossoms

Blossoms yellow.—*C. Helianthemum*. *J. HUDS.*

Near Croydon, Surry. Du Bois in R. syn.

S. July.

CIS'TUS *Helianthemum*. Somewhat shrubby, trailing. *Sun-flower*
 Leaf-scales spear-shaped. Leaves oblong, edges rolled
 back, somewhat hairy.—

Curt. iv. 49.—*Fl. dan.* 101.—*Park.* 656. 1.—*Clus.* 1. 73. 1,
repr. in Lob. ic. ii. 117. 1, *Ger. em.* 1283. 4, and *cop. in J.*
B. ii. 15. 2.—*Lob. ic. ii.* 117. 2, *repr. in Ger. em.* 1282. 3,
 and *cop. in J. B. ii.* 16. 1.—*Ger.* 1100. 3 and 2.—*Matth.* 744,
fruit-stalks zigzag.—*Trag.* 221.—(*Clus.* i. 75. 1, *repr. in Dod.*
 193, *Lob. obs.* 5. 238. 2, *ic. ii.* 116. 1, *Ger. em.* 1282. 1 and
 2, *cop. in Ger.* 1100. 1, and *J. B. ii.* 61. 2, is *C. pilosus J.*)

Petals nearly circular, very entire, deep yellow, with generally
 a tawny ring surrounding the receptacle. *Bunch* before flowering
 nodding. *Leaves* sprinkled with scattered hairs. *LINN.*—*Branches*
 somewhat hairy. *Leaves* hairy above, cottony underneath, egg-
 shaped, the uppermost strap-shaped. *Leaf-scales* 4, hairy at the
 edge. *Bunch* terminating, with 3 to 5 flowers. *Empalement* mem-
 branaceous, hairy, with brown or purplish ribs. *Petals* scolloped,
 or imperfect at the edge, very blunt, almost lopped, rather heart-
 shaped than circular, wrinkled, sometimes white. *Seed-bud* hairy,
 egg-shaped. *RELH.*—*Leaves* opposite. *Mr. HOLLEFEAR.*—*Stems*
 thread-shaped, a little woolly. *Leaves* egg-spear-shaped, in pairs
 at each knot of the stem, above green and somewhat hairy, under-
 neath with a whitish woolliness. *Leaf-scales* 4 at each knot of the
 stem. *Empal.* the 3 larger leaves composed of strong green ribs,
 connected by a semi-transparent dotted membrane; the 2 outer
 spear-shaped, green, and which are more like floral-leaves. *Petals*
 yellow, a little toothed on the outer part. *Chives* yellow. *Seed-bud*
 silky, white. *Shaft* club-shaped, green. *Capsule*, cell 1, valves 3.
 WITH.

Dwarf Cistus. Little Sun-flower.

Mountainous meadows and pastures, especially in a calcareous
 soil.

P. July.—Aug.

Goats, Sheep, and Horses eat it. Swine refuse it.

β. Blossoms white. Gogmagog Hills.

γ. Blossoms rose-coloured.

δ. *surrejanus*. HUDS.—*C. surrejanus*, which see.

Inclined to consider it, with Mr. Hudson, as a variety of *C.*
Helianthemum, there being so great a resemblance, and the material
 difference being only the shape of the petals, and that of the empal.
 though the last differs but very little. Mr. WOODWARD.

mountain CIS'TUS *polifolius*. Somewhat shrubby, with leaf-scales, trailing. Leaves oblong-egg-shaped, hoary. Empalements smooth. Petals ferrated.—

Dill. clth. 145. 172.—*Fluk.* 23. 6, no flowers.

Flowers white. LINN.—Stems numerous. Flowering branches ascending, cottony, white. Leaves opposite, rolled back at the edge, with a prominent mid-rib underneath, cottony, white. Bunches terminating. Fruit-stalks short. Leaf-scales spear-shaped. Empalement purplish, slightly hairy; the 2 outer leaves spear-shaped, minute. MR. WOODWARD.

Brent Downs, Somersetshire, near the Severn Sea. P. July.

Order III.

TRIGYNIA; III. POINTALS.

736. DELPHINIUM. Lark-spur.

EMPAL. *Cup* none.

BLOSS. *Petals* 5; unequal; placed in a circle; the uppermost before blunter than the rest; behind extended into a straight, tubular, long, blunt horn; the other egg-spear-shaped; expanding; nearly equal. *Honey-cup* cloven; its front standing in the upper part of the circle of the petals, and its hinder part inclosed by the tube of the uppermost petal.

CHIVES. *Threads* many; 15 to 30; awl-shaped; broadest at the base; very small; leaning towards the uppermost petal. *Tips* upright; small.

POINT. *Seed-buds* 3 or 1; egg-shaped; ending in *Shafts* as long as the chives. *Summits* simple; reflected.

S. VESS. *Capsules* 3 or 1; egg-awl-shaped; straight; with 1 valve; opening inwards.

SEEDS many: angular.

ESS. CHAR. *Empal.* 0. *Petals* 5. *Honey-cup* cloven; horned behind. *Pods* 3 or 1.

wild DELPHINIUM *Consolida*. Capsule single. Honey-cup of 1 leaf, Stem sub-divided.—

Ludw. 54.—*Blackw.* 26.—*Fl. dan.* 683.—*Lonic.* i. 182. 2.—*Fuchs.* 27, cop. in *Trag.* 569, and *J. B.* ii. a. 210.—*Dod.* 252. 2, repr.

repr. in Lob. obs. 427. 1, ic. i. 739. 2, Ger. em. 1083. 5.—
Ger. 923. 4.—Park. par. 279. 3.—(Dod. 252. 1, repr. in Lob.
obs. 426. 2, ic. i. 739. 1, Ger. em. 1082. 1, is referred by
Linnaeus to *D. Ajacis*, but corresponds better with the character of
D. Consolida, and agrees very exactly with our plant.)

Stem upright, cylindrical, downy, branched. Leaves alternate,
the lower on short leaf-stalks, the upper sitting; divisions many,
strap-shaped. Fruit-stalks with 1 flower. Blossoms blue, purple,
bay, or white. RELHAN.—Branches round. Leaves divided down
to the base into 3 or 5 parts, which are deeply cut into slender strap-
shaped segments often forked at the end. Floral-leaves 2, strap-
shaped, opposite. Petals irregularly fcolloped at the edge; the
lateral ones broadest; the uppermost spear-shaped, not blunter
than the rest, rather shorter than the honey-cup, but projecting
backwards into a conical tube. Honey-cup placed within the upper
petal, tube projecting backwards, and inclosed within the tube of
that petal, the upper side thin and skinny, the under green and
fleshy. Tips double, yellow. Seed-lud conical, woolly. Shaft o.
Summits 2, white, small, fleshy, flattened, and lying close together.
WITH.

Lark-spur. Larks-heel. Larks-claw. Larks-toes.

Corn fields. Swaffham Field. RAY. RELHAN.—Lower road
between Cambridge and Gogmagog Hills. RELHAN.—with all the
varieties of colour. Mr WOODWARD.—Hinton, Trumpington,
Feverham, Cambridgeshire. RELHAN. A. June.—Sept.

The expressed juice of the petals, with the addition of a little
alum, makes a good blue ink. The seeds are acrid and poisonous.
When cultivated the blossoms often become double.

Sheep and Goats eat it. Horses are not fond of it. Cows and
Swine refuse it.

Phalæna Delphinium lives upon it. LINN.

A Horse chewed some which he happened not to have smelt at,
but presently rejected it. ST.

Order V.

PENTAGYNIA; V. POINTALS.

741. AQUILE'GIA. Columbine.

EMPAL. *Cup* none.

BLOSS. *Petals* 5; spear-egg-shaped; flat; expanding; equal. *Honey-cups* 5; equal; alternating with the petals; horned; gradually widening upwards; the mouth ascending obliquely outwards; fixed to the receptacle inwardly; extending below into a long tapering tube, blunt at the end.

CHIVES. *Threads* many; 30 or 40; awl-shaped; the outer ones the shortest. *Tips* oblong; upright; as tall as the honey-cups.

POINT. *Seed-buds* 5; egg-shaped, but oblong; ending in awl-shaped *shafts*, longer than the chives. *Summits* upright; undivided; 10 wrinkled, short, chaffy substances separate and inclose the seed-buds.

S. VESS. *Capsules* 5; cylindrical; parallel; straight; taper; with 1 valve, opening from the point inwardly.

SEEDS many; egg-shaped; keeled; fixed to the opening seam.

ESS. CHAR. *Empal.* o. *Petals* 5. *Honey-cups* 5; horn-like; amongst the petals. *Capsules* 5; distinct.

common AQUILE'GIA *vulga'ris*. Honey-cups bowed inwards.—

Ludw. 181.—*Fl. dan.* 695.—*Mill. ill.*—*Dod.* 181. 1, repr. in *Lob. obs.* 440. 2, ic. i. 761. 1, *Ger. em.* 1093. 1, and cop. in *H. ox.* xii. 1. row 3. 1.—*Fuchf.* 102, cop. in *Trag.* 137, *J. B.* iii. 484. 1, and *Park.* 1367. 1.—*Matth.* 629.—*Swert.* ii. 8. 9.—*Lonic.* i. 85. 1.—*Column. phyt.* 1, stem and branches hairy.—*Ger.* 935. 1.

Stem upright, 3 feet high, branched, somewhat angular. Leaves, the lower on leaf-stalks, doubly 3-fold; leaflets roundish, with 3 lobes, cut-scolloped, the uppermost fingered, lobes oval, very entire. The leaf-stalks which proceed from the root very long. Blossoms blue, or purple. Seeds black. Flowers pendant. LYONS.

Columbines.

Columbines.—Woods and thickets. [Upper part of Girling Trough, near Conistone, Kilsay, Yorkshire. CURT.—Bedingham, Norfolk, with blossoms blue, or white; near Swaffham, with blossoms the same, or pale red. Mr. WOODWARD.—Near Goldsithney, Cornwall. Mr. WATT.—Souston's Roch, near Shellley, Worcestershire. Mr. BALLARD. ST.] P. June.

The beauty of its flowers has long introduced it into our flower borders.

Goats eat it. Sheep are not fond of it. Cows, Horses, and Swine refuse it.

AQUILE'GIA *alpi'na*. Honey-cups straight, *mountain* shorter than the petals. Petals spear-shaped.—

Leaves doubly 3-fold, small; leaflets with many clefts; lobes somewhat strap-shaped, blunt, with the appearance and tender texture of the *A. vulgaris*. Honey-cups nearly upright, as short again as the petals. Petals very long. LINN.—If distinct, is very closely allied to *A. vulgaris*. HUDS.

Mountainous woods in Westmoreland.

P. June.

Order VI.

HEXAGYNIA; VI. POINTALS.

744. STRATIO'TES. Water-soldier.

TEMPAL. Sheath of 2 leaves, inclosing a single flower; compressed; blunt; approaching; keeled on each side; permanent. Cup 1 leaf; with 3 divisions; upright; deciduous.

BLOSS. Petals 3; inversely heart-shaped; upright, but expanding; twice as large as the cup.

CHIVES. Threads 20; as long as the cup; fixed to the receptacle. Tips simple.

POINT. Seed-bud beneath. Shafts 6; divided down to the base; as long as the chives. Summits undivided.

S. VESS. Berry covered with a capsule; oval; taper towards each end; with 6 sides, and 6 cells.

SEEDS many; oblong; covered; generally winged.

ESS. CHAR. Sheath of 2 leaves. Cup with 3 clefts. Petals 3. Berry beneath; cells 6.

STRA.

common STRATIOTES *Aloides*. Leaves sword-shaped, triangular, edge between fringed and prickled.—

Fl. dan. 337.—*Mill. ill.*—*Dod.* 589. 1, repr. in *Lob. obs.* 204. 1, ic. i. 375. 2, *Ger. em.* 825, and cop. in *Ger.* 677, *Park.* 1249. 1, *J. B.* iii. 787. 1, and *Pet.* 71. 5.

Chives and *pointals* are generally found in the same flower, but they have been sometimes observed to be on different plants; and where they are found in the same flower, the *tips* have been found to be barren. LINN.—*Flowers* with *chives* and *pointals* distinct, or rather in various dispositions. RETZ.—*Leaves* strap-shaped, pointed, gristly; ferratures prickly. *Stalk* 2-edged, with 1 flower. *Sheath* as long as the fruit-stalk; leaves 2, concave. pointed. *Empal.* leaves 3, white, egg-shaped, blunt. *Petals* egg-shaped, white. *Chives* many. *Tips* awl-shaped. LYONS.—In the autumn the plants sink to the bottom of the water, and in the spring from amongst the leaves of the old plants arise numerous thick suckers, each bearing a young plant, which arises and floats on the surface, where it grows to maturity. Sometimes 8 or 10 form a circle on the surface, to which the strings were radii, and the old plant at the bottom the centre, and in this manner they sometimes rise so thick as entirely to fill up the surface of ditches, preventing all other plants from growing in it. I should suppose the mother plant decays, as the floating plants shoot out fibres, which, if they do not sooner, on sinking probably lay hold of the mud, and these in the spring, I apprehend, produce the fresh offspring. If such be its mode of growth, it is an example of a biennial of a very singular nature. MR. WOODWARD.

Water Aloes. Fresh Water Soldier.

Slow streams and fen ditches. [In Norfolk, very frequent. MR. WOODWARD.] P. June. July.

A great variety of insects are nourished by this plant; some of them pursue it down to the bottom of the water, and devour the leaves.

Swine eat it. Goats refuse it.

Order VII.

POLYGYNIA; MANY POINTALS.

752. ANEMO'NE. Anemone.

EMPAL. none.

BLOSS. *Petals* in 2 or 3 rows; rather oblong: 3 in each row.CHIVES. *Threads* numerous; hair-like; half as long as the blossom. *Tips* double; upright.POINT. *Seed-buds* numerous; forming a knob. *Shafts* taper. *Summits* blunt.S. VESS. none. *Receptacle* globular, or oblong; with hollow dots.

SEEDS many; taper; retaining the shaft.

ESS. CHAR. *Empal.* o. *Petals* 6 to 9. *Seeds* several.* *Fruit-stalk* with a fence. *Seeds* with a tail.ANEMO'NE *Pulsatilla*. *Fruit-stalk* with a fence. *Pasque flower*
Petals straight. *Leaves* doubly winged.—

Ludw. 119.—*Fl. dan.* 153.—*Stoerk A. pratensis*?*—*Relh.* at p. 208.—*Matth.* 620.—*Clus.* i. 246. 1, repr. in *Dod.* 433. 1, *Lob. obs.* 149. 2, ic. i. 281. 2, *Ger. em.* 385. 1, and cop. in *Park.* 341. 2, and abridged in *H. ox.* iv. 26. row 1. 1, and *Pet.* 40. 9.—*Ger.* 308. 1 and 2, and 309.—*Lonic.* i. 83. 2.—*J. B.* iii. 409. 2 and 3.—(*Trag.* 413, must be *A. pratensis*.)

Fruit-stalk upright, round, a hand's breadth to 9 inches high, woolly, with 1 flower, becoming longer when out of flower. *Fence* with many clefts; segments strap-shaped, woolly, contiguous to the flower, but after flowering near the middle of the fruit-stalk. *Flower* beautiful, violet. *Petals* spear-shaped, woolly without, smooth within. *Seeds* egg-shaped, hairy, just adhering to the receptacle. *RELH.*—*Stem* downy, with 1 flower. *Flower* at first covered by the fence, afterwards nodding on a long fruit-stalk. *Fence* with many clefts, downy. *Petals* downy without, within smooth, of a deep purple. *Seeds* crowned with the hairy lengthened shafts. *Mr. Woodw.*—*Petals* spear-shaped. *Leaves* hairy, finely divided. *Blossoms* solitary, purple.

Pasque Flower. Passe Flower.

POLYANDRIA POLYGYNIA.

High pastures, Gogmagog Hills, Hildersshaw, Bartlow, Cambridgeshire. Berhack Heath, near Stainford; Leadstone Hall, above a lake in a place called the Clofe, near Pontefract; Cornbury Park, near Charlbury, Oxfordshire. [Tulip Hills, near Lexham, Norf. Mr. PITCHFORD.—Canham Heath, near Bury; and Devil's Ditch, Newmarket. Mr. WOODW.] P. Apr. May.

The whole plant is acrid, and blisters the skin. The juice of the petals stains paper green.

Goats and Sheep eat it. Horses, Cows, and Swine refuse it.

** Flower naked. Seeds without tails.

wood ANEMONE *nemoro'sa*. Seeds pointed. Leaflets cut. Stem with 1 flower.—

Curt. ii. 13.—Fl. dan. 549.—Fuchf. 161, cop. in J. B. iii. 412. 2, Lonic. i. 163. 4, and with an addition in Trag. 95. 1.—Ger. 306. 2.—Walc.—Clus. i. 247. 1, repr. in Dod. 435. 2, Lob. obs. 384. 2, ic. i. 673. 2, Ger. em. 383. 2, and cop. in Park. 325. 1, H. ox. iv. 28. 10, and Pet. 40. 9; and also in Ger. 307. 3 and 4.

Petals 3 inner and 3 outer. LINN.—Root creeping, thread-shaped. Stem single, cylindrical, hairy, 3 to 6 inches high, upright. Leaf-stalks 3 from the same point. Root-leaves 3-fold; lobes 5, spear-shaped, deeply cut, ferrated, hairy. Stem-leaves 3, 3-fold, cut, ferrated. Petals egg-oblong, blunt, expanding, white, the 3 outermost purple beneath. Shafts very short. Summits undivided. LYONS.—Plant smooth, excepting the leaves. Stem-leaves doubly 3-fold; leaflets egg-spear-shaped, variously jagged or lobed; veins slightly hairy. Petals, the outer tinged with purple at the base. MR. WOODWARD.—Stem and fruit-stalk purplish. Petals, the outer row with the deepest tinge of purple underneath. WITH.

Woods and hedges, [and in pastures in the neighbourhood of Stourbridge, some of which are almost white with it when in blossom. ST.]

P. April.

The flowers fold up in a curious manner against rain. The whole plant is acrid. When Sheep that are unaccustomed to it eat it, it brings on a bloody flux.

Goats and Sheep eat it. Horses, Cows, and Swine refuse it. LINN.—The paper in which the dried specimens are preserved is stained brown, which renders it probable that it may be employed as a dye. ST.

2. Blossoms wholly red.

Devonshire. MERRER.—Rose-coloured, with others only on the outside, growing with the white. Hornsey Wood, near London, in a gravelly loam. ST.

3. Diseased.

3. Diseased. Leaves covered with yellow spots, the effects of some insect. CURT.

Ray 3. 1. at p. 128.

ANEMO'NE *apenni'na*. Seeds pointed. Leaflets *mountain* cut. Petals spear-shaped, numerous. LINN.—Sometimes elliptical. Mr. WOODWARD.

Clusf. i. 254. 2, *cop. in Dod.* 434. 2.

Stem, leaves, and fruit-stalk slightly hairy. *Leaflets* variously cut and divided. *Petals* pale blue. Mr. WOODWARD.

Woods and shady places. Wimbleton Wood, near Harrow on the Hill; Luton Hoo, Bedfordshire. [Near Berkhamstead, Herts. Mr. GOODALL.] P. April.

ANEMO'NE *ranunculoi'des*. Seeds pointed. Leaflets *yellow* cut. Petals roundish. Stem with mostly 2 flowers.—

Fuchf. 162, *cop. in Trag.* 95. 2, and *Lonic.* i. 163. 5.—*Ger.* 306.

1.—*Fl. dan.* 140.—*Lob. ic.* i. 674. 1, *repr. in Ger. em.* 383.

1, *cop. in Park.* 325. 5.

Differs from *A. nemorosa* as follows: *Petals* yellow, 2 alternately on the outside, 2 alternately within, and 1 without that which is next to it, and 1 within that which is next to it. *Fruit-stalk* with 2 leaflets, the later of which is at the base. Comes into flower 1 or 2 days before it. LINN.

Shady places and hedges. Near King's Langley, Herts; and Wrotham, Kent. P. May.

754. CLE'MATIS. Travellers-joy.

EMPAL. *Cup* none.

BLOSS. *Petals* 4; flexible; oblong.

CHIVES. *Threads* many; awl-shaped; shorter than the blossom. *Tips* fixed to the sides of the threads.

POINT. *Seed-buds* many; roundish; compressed; ending in awl-shaped *Shafts*, longer than the chives. *Summits* simple.

S. VESS. none. *Receptacle* a small knob.

SEEDS many; roundish; compressed; retaining the shaft, which is variously shaped.

ESS. CHAR. *Empal* 0. *Petals* 4, sometimes 5 (or 6. MURR.) *Seeds* with tails.

wild CLE'MATIS *Vital'ba*. Leaves winged. Leaflets heart-shaped, climbing.—

Curt. iv. 41.—Jacq. fl. iv. 308.—Fuchf. 97, cop. in Trag. 818, J. B. ii. 125. 1, Lonic. i. 210. 1, and Pet. 40. 12.—Math. 957. β.—Chyf. i. 122. 2, repr. in Dod. 404. 1, Lob. obs. 345. 2, ic. i. 626. 1, Ger. em. 886. 1, and cop. in Ger. 739. 1, Park. 383. 1, J. B. ii. 125. 2, and Pet. 40. 11. β.

Petals leather-like, spear-shaped. *Leaflets* entire, or toothed. LINN.—On the same plant. RAY.—The latter as in the figures marked β. ST.—*Stem* scored. *Leaves* opposite, on leaf-stalks; *leaflets* on leaf-stalks. *Leaf-stalks* twine about any thing they can lay hold of, and thus support the plant. *Fruit-stalks* branched, with triple divisions, woolly, from the bosom of the leaves. *Petals* rolled back, scored, woolly. *Seed-buds* a little hairy. *Shafts* becoming very long, slender, crooked, and covered with fine silky hairs. *Blossoms* whitish. WITH.

Traveller's-joy. *Great Wild Climber*. *Virgin's Bower*. *Honesty*.

Hedges and shady places, in calcareous soil. S. July. Aug.

The whole plant is acrid.

This should seem to be the plant which a writer in the *Bath. Soc. papers* ii. p. 112, fancies to be a species of *Apocynum*, which, in France, he informs us, is manufactured into flannels, velvets, and other stuffs. But the fine hairs, which give the shafts their cottony appearance, are, I apprehend, too short to be applied to such purposes, though it is probable they may be employed to advantage for the stuffing of chairs, &c. which the author also proposes. ST.

755. THALIC'TRUM. Rue-weed.*

EMPAL. *Cup* none; unless you call the blossom the cup.

BLOSS. *Petals* 4; circular; blunt; concave; shedding.

CHIVES. *Threads* many; broadest in the upper part; compressed; longer than the blossom. *Tips* oblong; upright.

POINT. *Seed-buds* many; roundish; often standing on little foot-stalks. *Shafts* none. *Summits* thick.

S. VESS. none.

SEEDS many; furrowed; egg-shaped; without awns.

ESS. CHAR. *Empal.* 0. *Petals* 4 or 5. *Seeds* without tails.

* *Meadow-rue* might be taken for a species of *Ruta*.

OBS. In some species there are long shafts. In no well known genus are the species so difficult to distinguish and characterise as in this.

THALIC'TRUM alpinum. Stem very simple, *mountain* almost bare. Bunch simple, terminating.—

Fl. dan. 11.—*Lightf.* 13. 1. at p. 166.—*Pet.* 71. 12.—*H. ox.* ix.

7. 14.—*Boerh. ind. alt.* at p. 44.

A delicate little plant. Leaves scarcely a span high. Petals 4. Chives 12. Pointals 8. Flowers on crooked fruit-stalks. Blossoms brown. LINN.

Moist rocks, and on the sides of alpine rivulets. Caernarvonsh. and Scotland. P. June.

THALIC'TRUM minus. Leaves with 6 divisions. *lesser* Flowers on crooked fruit-stalks. LINN.—Segments of the leaves from 3 to 7. ST.

Jacq. fl. v. 419.—*Fl. dan.* 732.—*Seguier* i. 11.—*Dod.* 58. 2, repr. in *Lob. obs.* 508. 2, ic. ii. 56. 2, *Ger. em.* 1251. 2, and cop. in *Park.* 264. 5, *H. ox.* ix. 20. 12, and *Pet.* 71. 10.—*Ger.* 1067. 2.—*J. B.* iii. 487. 3.—*Pet.* 71. 11.—(*Fl. dan.* 244, is *T. simplex.*)

Distinguishable by the purplish points of the leaves, and a bluish bloom on the stem. One of the early flowering species. LINN.—Leaves broad and blunt, generally with 3 and sometimes 4 clefts at the extremity; the upper sometimes oval-spear-shaped and entire. Panicle branched, with a few scattered flowers, at first nodding, afterwards upright. MR. WOODWARD.

Moist mountainous meadows. Chalky grounds about Newmarket. RAY. [MR. WOODW.]—Linton, and borders of Gogmagog Hills, Cambridgeshire, and mountains in Malham and Settle, Yorkshire. RAY.—Chedder Cliffs, Somersetshire. HUDS. [MR. FORD.]—In the North, and in Caernarvonshire. HUDS.—Gloddaeth, Caernarvonshire. PENN. Wales.—[Marham, Norf. MR. CROWE.—Skirreth Wood, near Ingleton, and about Kilnsay, Yorkshire. CURT.]

P. July. Aug.

β. HUDS. Leaves broader.

Fissures of rocks on the precipices of Caderidris, but on being cultivated in a garden proved to be identically the same with α. RAY.

THALIC'TRUM flavum. Stem leafy, furrowed. *meadow* Panicle with many divisions, upright.—

Morif. umb. 12. 2, cop. in *H. ox.* 20. row 2. 1.—*Dod.* 58. 1, repr. in *Lob. obs.* 508. 3, ic. ii. 56. 1, *Ger. em.* 1251. 1, and

cop. in Park. 264. 1, and Pet. 71. 9.—Ger. 1067. 1.—J. B. iii. 486.

Root a full yellow. *Petals* 4. *Chives* 24. *Pointals* 10 to 16. LINN.—*Stem* upright, a cubit to 2 feet high, scored. *Leaves* yellowish green above, pale green underneath, ribbed. *Panicle* terminating, short, close, yellowish. RELH.—*Leaflets*, the lower irregular, sometimes wedge-shaped, with 3 clefts; sometimes oval, entire, with a sort of lobe on one side; the upper spear-shaped, entire, or with 3 clefts. *Flowers* numerous, close and thick. *Blossoms* whitish. Mr. WOODWARD.

Meadow Rue.

Moist meadows, pastures, and banks of rivers. P. June.

A cataplasm, made of the leaves, has been known to give relief in the Sciatica. The root dyes wool yellow.

Cows, Horses, Goats, and Sheep eat it. Swine are not fond of it. LINN.—A Horse refused it; but, on offering it again, eat some of it. ST.

narrowleaved 2. Lobes of the leaves narrower, and more wrinkled. LIGHTF.
H. ox. ix. 20. 3.

756. ADO'NIS. Pheasant-eye.

EMPAL. *Cup* 5 leaves; blunt; concave; a little coloured; deciduous.

BLOSS. *Petals* 5 to 15; oblong; blunt; shining.

CHIVES. *Threads* many; very short; awl-shaped. *Tips* oblong; bent inwards.

POINT. *Seed-buds* numerous; forming a knob. *Shafts* none. *Summits* sharp; reflected.

S. VESS. none. *Receptacle* oblong; spiked.

SEEDS numerous; irregular; angular; without awns; hunched at the base; bent back at the point with a small projection.

ESS. CHAR. *Empal. leaves* 5. *Petals* more than 5; without honey-cups. *Seeds* naked.

OBS. Rather 5 to 15 as in the Gen. Pl.—*A. æstivalis* has only 5. ST.

autumnal ADO'NIS *autumnalis*. *Petals* 8. Fruit nearly cylindrical. LINN.—*Petals* seldom more, oftener fewer. CURT.

Curt. ii. 23.—Clus. i. 336. 1, repr. in Dod. 260. 3, Lob. obs. 150.

1, ic. i. 283. 2, Ger. cm. 387, and Pet. 39. 8.—J. B. iii. a.

126. 1 and 2.—Ger. 310. 1.—Park. par. 291. 5.

Flowers

Flowers blackish purple. Plant with 1 flower. Branches barren.

Petals scarlet. LINN.

Adonis Flower. Red Maithes. Red Morocco.

Corn fields. In the counties round London. CURT.

A. June. July.

Its beautiful scarlet blossoms have gained it admittance into our gardens.

757. RANUN'CULUS. Crow-foot,

EMPAL. Cup 5 leaves; egg-shaped; concave; a little coloured; deciduous.

BLOSS. Petals 5; blunt; shining; with small claws. Honey-cup a little cavity, just above the claw of each petal.

CHIVES. Threads many; nearly half as long as the petals. Tips upright; oblong; blunt; double.

POINT. Seed-buds numerous; forming a knob. Shafts none. Summits reflected; very small.

S. VESS. none. Receptacle connecting the seeds by very short foot-stalks.

SEEDS many; irregular; crooked at the point; figure various.

ESS. CHAR. Empal. leaves 5. Petals 5; with a pore containing honey on the inside of the claws. Seeds naked.

Obs. The essential character of this genus consists in the honey-cup; the other parts of the flower are inconstant. This honey-cup is in some species a naked pore; in others, encompassed by a cylindrical border; and, in others again, closed by a scale which is notched at the end. In the *R. ficaria*, the cup has 3 leaves, and the blossoms more than 5 petals. The *R. hederaceus* has only 5 chives; and the *R. sceleratus* an awl-shaped receptacle, and the fruit in a spike. In some species the seeds are roundish, in others depressed; sometimes they are beset with prickles like a hedge-hog; and sometimes they are but few in number.

* Leaves undivided.

RANUN'CULUS *Flam'mula*. Leaves egg-spear- long-leaved shaped, on leaf-stalks. Stem declining.—

Fl. dan. 575.—*Dod.* 432. 1, repr. in *Lob. obs.* 382. 2, ic. i. 670.

1, *Ger. em.* 961. 2, and abridged in *H. ox.* iv. 29. 34.—*Park.*

1215. 2.—*Ger.* 814. 2.

Chives 30 to 40. RELHAN.—*Stem* slightly hairy. *Leaves* alternate, frequently ferrated upwards with shallow distant ferratures, slight-hairy. *Leaf-stalks* long, scored, with membranaceous edges, embracing the stem. MR. WOODW.—*Leaves* generally imperfectly toothed. ST.—*Leaves* sometimes toothed. *Leaf-stalks* rather a doubling of the leaves. WITH.

β. *Leaves* ferrated. C. B.

Dod. 432. 2, repr. in *Lob. obs.* 382. 3, ic. i. 670. 2, *Ger. em.*

962. 3, cop. in *Pet.* 39. 6, and abridged in *H. ox.* iv. 29. 35.—

J. B. iii. 864. 3.—*Ger.* 814. 3.—*Park.* 1215. 3.

Blossoms deep yellow.

Lesser Spearwort.

Bogs; boggy meadows and sides of rivulets.

P. June. July. [to Sept. WITH.]

It is very acrid. Applied externally it inflames and blisters the skin.

Horses eat it. Cows, Sheep, Goats, and Swine refuse it.

γ. HUDS. *Leaves* broad, hairy at the edge.

From Ireland. PLUK.

narrowleaved

RANUNCULUS reptans. *Leaves* strap-shaped. Stem creeping.—

Lightf. i. frontispiece.—*Fl. dan.* 108.—*Amman.* 13. 1.—*Fl. lapp.*

3. 5.

I am almost certain that it is merely a variety of *R. Flammula*, having observed a series of gradations between the two. HALL. MR. WOODWARD.—It approaches very near to some states of *R. Flammula*. LIGHTF.—*Stem* slender. *Leaves* 1 to 4 at each joint, upright. *Flowers* solitary, terminating, or at the joints, small, yellow. MR. WOODWARD.

Sides of lakes, rare. West end of Loch Laver. [Stony margin of Cornifton Water, Lancash. MR. WOODW.] P. July. Aug.

Spearwort

RANUNCULUS Lin'gua. *Leaves* spear-shaped. Stem upright.—

Fl. dan. 755.—*Ger.* 814. 1, cop. in *Ger. em.* 961. 1, *Park.* 1215.

1, *H. ox.* iv. 29. 33, and *Pet.* 39. 5.—*J. B.* iii. 865.

Stem branching, leafy, often 1½ foot high. *Leaves* somewhat toothed, rough with short hairs pressed to. *Fruit-stalks* with 1 flower, opposite the leaves. LINN.—*Stem* often 3 feet high. RELH.—*Stem* hairy. *Leaves* alternate, pointed. *Leaf-stalks* short, embracing the stem. MR. WOODWARD.—*Leaves* larger than those of *R. Flammula*. *Blossoms* deep yellow. WITH.

Great Spearwort,

Wet

Wet pastures and sides of lakes. Bogs on Iver Heath, near Uxbridge. Between Rotherhithe and Deptford. [Bogs on Malvern Chace, Worcestershire. Mr. BALLARD.—Kineson Pool, near Stafford. ST.] P. June. July.

RANUN'CULUS *Fica'ria*. Leaves heart-shaped, *Pilewort* angular, on leaf-stalks. Stem with 1 flower.—

Ficaria verna. HUDS. which see.

** *Leaves dissected and divided.*

RANUN'CULUS *aurico'mus*. Root-leaves kidney-shaped, scolloped, cut. Stem-leaves fingered, strap-shaped. Stem with many flowers. LINN.—*Root-leaves somewhat kidney-shaped, with 3 divisions, sharply scolloped.* CURT.

Curt. ii. 16.—Fuchf. 156, *cop. in Trag.* 97, J. B. iii. 857. 3, Lonic. i. 162. 2.—Fl. dan. 665.—Lob. ic. 669. 2, repr. in Ger. 954. 7, and *cop. in Park.* 326. 7, Pet. 38. 2, and H. ox. iv. 28. 15.—Pet. 38. 6.—Ger. 807. 8, (and not 7.)

Root-leaf heart-shaped. Stem-leaves, the lower bird-footed, on leaf-stalks, broader, blunt; the upper fingered, sitting, opposite, embracing the stem. Stem forked, or 3-forked. *Empalement* united at the base, scarce perceptibly woolly. Petals during the season for the leafing of trees wanting, in the season of the flowering of trees 2 or 3, in the season of fruiting 5, whence it may be easily taken for a different plant. LINN.—*Honey-cup* a small oblique hole at the bottom of the petals not covered by any scale. CURT.—*Empalement* yellow. Blossoms yellow. WITH.

Sweet Wood Crowfoot. Goldilocks.

Woods, groves, and hedges, [in a clayey soil. Mr. WOODW. ST.] P. April. May.

Goats and Cows eat it. Horses and Sheep refuse it.

RANUN'CULUS *scelera'tus*. Lower-leaves hand-shaped, the upper fingered. Fruit oblong.— *celery-leaved*

Curt. ii. 17.—Fl. dan. 571.—Fuchf. 159, *cop. in Trag.* 93, J. B. iii. 858. 1, and Lonic. i. 163. 2.—Dod. 426. 2, repr. in Lob. obs. 382. 1, ic. i. 669. 1, Ger. em. 962. 4, and *cop. in Park.* 1215. 6, Pet. 38. 11, and H. ox. iv. 29. 27 and 28.—Matth. 610.

Plant nearly smooth. Stem cylindrical, scored, hollow, very much branched. Leaves, the lower on long leaf-stalks, hand-shaped, with 5 clefts, segments blunt, with 3 clefts; the upper with 3 clefts, the lateral segments cloven, the middle one, as also its segments,

segments, with 3 clefts; the *uppermost* fingered, nearly fitting, segments almost entire. *Leaf-stalks* membranaceous at the base, half embracing the stem. *Fruit-stalks* furrowed, opposite the leaves. *Honey-cup* above the claw of the petal. *Receptacle* oblong. LYONS.—*Root-leaves* kidney-shaped, lobed, on long leaf-stalks. *Petals* small. *Receptacle* egg-shaped. Mr. WOODWARD.—*Leaves* smooth, with 3 or 4 deep divisions; segments spear-shaped, more or less jagged. *Stem* smooth. *Plant* biting. *Threads* more than $\frac{1}{2}$ as long as the petals. *Fruit* conical. WITH.

Round-leaved Water Crowfoot.

Shallow waters.

A. May. June.

The whole plant is very corrosive; and beggars are said to use it to ulcerate their feet, which they expose in that state, to excite compassion.

Goats eat it. Cows, Horses, and Sheep refuse it.

bulbous RANUN' CULUS *bulbo'sus*. Empalements bent back. *Fruit-stalks* furrowed. *Stem* upright, with many flowers. *Leaves* compound.—

Mill. ill.—*Curt. i.* 7.—*Walc.*—*Fl. dan.* 551.—*Dod.* 431. 1, repr. in *Lob. obs.* 380. 3, *ic. i.* 667. 1, *Ger.* 953. 6, and *cop. in Park.* 329. 5, *Pet.* 38. 4.—*Fuchf.* 160, *cop. in J. B.* iii. 417. 4.—*Ger.* 806. 6.—*Matth.* 614.

Root globular, fibrous at the base. *Stems* a foot high, upright, bare at the base, towards the top leafy, and branched; cylindrical, hollow, with hairs pressed to. *Root-leaves* on long leaf-stalks, 3-fold, hairy; the terminating leaflet with 3 lobes; lobes with generally 3 clefts, toothed; the lateral leaflets fitting, opposite with 3 oblique lobes. *Stem-leaves*, the uppermost fingered; leaflets with 2 or 3 clefts, wedge-shaped; or simple, strap-spear-shaped, nearly fitting. *Leaf-stalks* broader at the base, half embracing the stem. *Fruit-stalks* with 1 flower. *Flower* yellow. *Empalement* hairy. *Petals* inversely heart-shaped. *Honey-cup* inversely heart-shaped, minute. LYONS.—*Empalement* at the bottom thin and somewhat transparent. *Stem* never throwing out suckers. CURT.—*Upper-leaves*, divisions strap-shaped. *Bulb* formed above the bulb of last year. When it comes into flower, the old one, in a dry soil, may be found in a state of decay under the new one, and surrounded by the fibres, but without the least appearance of suckers proceeding from either of them. In a turf containing 6 plants the roots were all distinct, excepting one, which appeared, from its size, to be a seedling, with the old bulbs at the bottom. *Petals* bright yellow. Mr. WOODWARD.—*Chives* about 80. *Plant* more or less hairy. *Roots* bulbous. *Blossoms* pale yellow. WITH.

Butter

Butter Flower. Butter Cups. Gold Cup.

Meadows and pastures.

Cows and Horses have a great aversion to it.

RANUN'CULUS *hirsu'tus*. Root fibrous, annual. *pale-leaved*
Stem hairy. Empalements bent back, taper-pointed,
with hairs rising from minute prominencies. CURT. RELH.
Mr. WOODWARD. ST.

Curt. ii. 15.—J. B. iii. 417. 3.

Stem more branched and spreading; hairs stiffer and longer than in *R. bulbosus*. *Leaf-stalks* of the lower leaves hollow, and if cut asunder, the nerves appear projecting into the inside of the tube. *Leaves*, lobes 3 more distinct, the middle and outermost rounder and less deeply divided at the edges, the side ones with a portion as if cut out from the inner edge; frequently with irregular pale or whitish spots, and the upper surface beset with projecting points, from which the hairs arise. *Flowers* more numerous, smaller, and *seeds* smaller than in *R. bulbosus*. CURT.—*Root*, fibres long, thick, white. *Stem*, hairs expanding. *Leaves* yellowish green, hairy. *Root-leaves* kidney-shaped, scolloped, entire, or 3-fold; the middle leaf on a leaf-stalk, with 3 lobes; the side leaflets sitting, each with 2 lobes. *Stem-leaves* similar, more deeply divided, and segments more pointed; the upper segments strap-spear-shaped. *Flowers* brimstone-coloured. Mr. WOODWARD.

Ranunculus bulbosus. β. HUDS.

Moist clayey places, where water has stood during the winter. Salt marshes near Gravesend. RAY.—Various places about London; side of the road between Croydon and Mitcham; and plentifully by the sea side on the gravelly banks about Southampton. CURT.—Road sides, rubbish, &c. Cambridgeshire. RELH.—[Amongst corn in a clayey soil, and on new made banks of salt marshes, Yarmouth. Mr. WOODWARD.] A. June.—Sept.

RANUN'CULUS *re'pens*. Empalements open. *creeping*
Fruit-stalks furrowed. Suckers creeping. Leaves compound.—

*Curt. iv. 39.—Blackw. 31. 1.—Fl. dan. 795.—Dod. 425, repr. in Lob. obs. 379. 1, ic. i. 664. 2, Ger. em. 951. 1, and cop. in Pet. 38. 7, and H. ox. iv. 28. 18.—Pet. 38. 8.—Ger. 804. 1. (J. B. iii. 420, is *R. acris*.)*

Root fibrous. Stems numerous, widely spreading, creeping. *Leaf-stalks* bordered, as it were, by a membrane at the base. *Empalement* smooth. *Flowers* close during rain, but do not hang down. Possibly a variety of *R. bulbosus*. LINN.—*Root-leaves* a little hairy underneath;

underneath; *leaflets* 3, with 3 segments. *Leaf-stalks* hairy, round, with a single furrow on the upper side. *Stem-leaves*, segments 3, more or less jagged, a little hairy underneath, at the edges and extremities. *Fruit-stalks* with 5 furrows. *Empalement* hairy, coloured. *Bloss.* yellow, deeper than that of *R. acris*. WITH.

Butter Cups.—Meadows, pastures, on rubbish under hedges, and in gardens, in moist situations. P, June.—Aug.

Goats eat it. Horses refuse it. LINN.—A Horse eat it. Sr.

β. HUDS. Larger. PET.

Pet. 38. 8.

The very same plant with α. RAY. Sr.

upright RANUNCULUS *acris*. Empalements open. Fruit-stalks cylindrical. Leaves with 3 divisions, and many clefts, the uppermost strap-shaped.—

Curt. i. 4.—Walc.—J. B. iii. 416.—Blackw. 31. 2 and c.—Dod. 426. 1, repr. in Lob. obs. 379. 2, ic. i. 665. 1, and cop. in Park. 328. 2, Pet. 38. 3, and H. ox. iv. 28. 16.—(Dod. 427. 1, repr. in Lob. obs. 379. 2, ic. i. 666. 1, Ger. 951. 2, and cop. in Park. 328. 3, is a pretty exact representation of it, but is *R. polyanthemus*.)

Stem, hairs pressed to. *Empalement* pretty hairy, loose, and not growing to at the base. LINN.—In the higher mountains of Caernarvonshire and Westmoreland the *stem* is with 1 or 2 flowers, (*flower?*) large, and the *empalement* very hairy. HUDS.—*Leaves* with blackish spots. *Lower leaf-stalks* tubular, furrowed. Mr. HOLLEFEAR.—*Leaves* hairy, segments black or deep purple at the points; *stem-leaves* fitting, but sheathing the joints. *Leaf-stalks* hairy. *Fruit-stalks* not furrowed. *Empalement* coloured. WITH.—*Chives* about 90. *Threads* shorter than the leaves of the cup. *Bloss.* bright yellow.

Butter Flower. Butter Cups.

Meadows and pastures.

P. June. July.

Sheep and Goats eat it. Cows, Horses, and Swine refuse it.

LINN.—Cows and Horses leave this plant untouched, though their pasture be ever so bare.

It is very acrid, and easily blisters the skin.

corn RANUNCULUS *arvensis*. Seeds prickly. Upper-leaves doubly compound, strap-shaped.—

Walc.—Fl. dan. 219, a branch.—Fuchs. 157, repr. in J. B. iii. 859. 1.—Dod. 427. 2, repr. in Lob. obs. 380. 1, ic. i. 665. 2, Ger. em. 951. 3, and cop. in Park. 328. 4, H. ox. iv. 29. 23, and Pet. 38. 10.—Ger. 805. 3.

Petals

Petals small, brimstone-coloured. *Seeds* 5 or 6, flat, beset with sawl-shaped prickles. *Chives* about 16. Mr. WOODWARD.

Hungerweed. [Mr. HOLLEFEAR.]—Corn fields. A. June.

RANUN'ULUS *parviflorus*. *Seeds* covered with small flowered sharp points. *Leaves* simple, jagged, pointed, rough with hair. *Stem* spreading.—

Ray 12. 1. at p. 326.—*H. ox.* iv. 28. 21.—*Pet.* 38. 9.—*Pluk.*

55. 1.

Stems more prostrate than that of *R. muricatus*. *Leaves* deeply jagged. *Seeds* beset only on the sides with tubercles, and not with prickles. LINN.—*Stems* trailing, cylindrical, hairy, hollow, very much branched. *Leaves* on leaf-stalks, alternate, with 5 lobes, hairy, pointed. *Leaf-stalks* 5 times as long as the leaves, semi-cylindrical, membranaceous at the base, half embracing the stem. *Fruit-stalks* opposite the leaves, round, not furrowed, as long as the leaves. *Empalement* bent back. *Petals* expanding. *Seeds* beset with minute hooks. LYONS.—*Lower-leaves* with 3 lobes, jagged, the upper simple or divided, spear-shaped, hairy. *Seeds* flat, terminated by short hooked points. Mr. WOODWARD.—*Leaves* with 3 clefts, segments toothed. *Root-leaves* kidney-shaped, or heart-shaped, with 3 clefts, segments toothed. *Stem-leaves* semi-circular. *Uppermost leaves* small, either simple, or with 3 divisions, sitting. *Seeds*, prickles hooked, very short. WITH.

Corn fields and meadows, in a gravelly soil. Near Camberwell; and Greenstreet Green, not far from Dartford, Kent. [Malvern Hill, Worcestershire. Mr. BALLARD.—Near Norwich. Mr. PITCHFORD.—and Worcester. ST.] A. May. June.

RANUN'ULUS *hederatceus*. *Leaves* roundish, ivy-leaved with 3 lobes, very entire. *Stem* creeping.—

Curt. iv. 42.—*Fl. dan.* 321.—*J. B.* iii. 782. 2, cop. in *H. ox.* iv.

29. 29, and *Pet.* 38. 12.—(*Park.* 1216. 9, is *Lemna trifolca*.)

Chives sometimes 10. WEBER. CURT.—*Stems* spreading. *Leaves*, some kidney-shaped, lobes nearly heart-shaped. *Leaf-stalks* flattened. *Empalement* bent back. *Fruit-stalks* not furrowed. *Petals* spear-shaped, white. *Chives* 5, 6, 7, rarely more. *Honey-cups* yellowish. *Seeds* smooth. WITH.

On the mud of slow shallow rivulets. Watery places, ditches, and slow streams. [Frequent in Suffolk. Mr. WOODWARD.]

P. June.—Aug.

RANUN'ULUS *aquatilis*. The leaves under water water hair-like; those above the water with central leaf-stalks.—

Honey-cup

Honey-cup not a scale, but a simple pore. LINN.—The variation of the leaves depends entirely on its growing in water which is either stagnant, or has more or less stream. *Petals* white, with a yellow spot at the base. MR. WOODWARD.—*Petals*, claws yellow. *Honey-cup* a short open tube. *Threads* not more than $\frac{1}{4}$ th as long as the petals. *Seed-buds* hairy when magnified. *Receptacle* hairy. WITH.—*Flowers* on fruit-stalks which arise from the same sheath with the leaves; white, or pale straw-colour.

P. April.—July.

Cows, Horses, Goats, Sheep, and Swine eat it.

various-leav'd

α . Leaves as in the specific character. ST.

Pet. 39. 1.—*J. B.* iii. 781. 1.—*Barr.* 565.—*Dod.* 587. 2, repr. in *Lob. obs.* 497. 2, *ic.* ii. 35. 2, *Ger. em.* 829. 2, and cop. in *Park.* 1216. 8.—*H. ox.* iv. 29. 31.

Wet ditches and gently flowing rivulets,

fine-leaved

β . All the leaves hair-like; outline round. LINN. RAY.—Flowers on long fruit-stalks. PLUK.

Pluk. 55. 2.—*Pet.* 39. 3.—*C. B. pr.* 73. 2, cop. in *J. B.* iii. 784. —1, and *Park.* 1257. 8.

Milfoil

γ . LINN. All the leaves hair-like; segments diverging; outline irregular. HALL.—Differing from α only in the leaves being all hair-like. RAY.

H. ox. iv. 29. 32.—*Ger.* 679, abridged in *J. B.* iii. 781. 2, and *Pet.* 39. 2.—(*Lob. ic.* i. 791. 1, repr. in *Ger. em.* 827. 3, and cop. in *Park.* 1256. 5, and abridged in *Pet.* 39. 4, is variety δ .)

In the same situations as variety α .

fennel-leaved

δ . LINN. All the leaves hair-like; segments very long, parallel. HALL.—outline oblong. ROYEN.—Stems very long, taking the direction of the stream. RAY. ST.

Fl. dan. 376.—*J. B.* iii. 782. 1.—*Lob. ic.* i. 791. 1, repr. in *Ger. em.* 827. 3, and cop. in *Park.* 1256. 5, and abridged in *Pet.* 39. 4.—(*Lob. ic.* i. 790. 2, repr. in *Ger. em.* 828. 4, is *Potamoget. pectinatum*.)

Rivers. River Tame about Tamworth, &c. the Isis, near Oxford, [and in shoals in the Severn, where it is called *Rait*. ST.]

FICA'RIA. (DILL. HALL. HUDS. ST.) Pilewort.

EMPAL. *Cup* 3 leaves; egg-shaped; concave; falling off.

BLOSS. *Petals* about 8; lpear-shaped; glossy. *Honey-cup* a little cavity just above the claw of each petal, closed by a nicked scale.

CHIVES. *Threads* many; very short. *Tips* straight; oblong; double.

POINT. *Seed-buds* numerous; forming a knob. *Shafts* none. *Summits* reflected; very small.

S. VESS. none. *Receptacle* connecting the feeds by very minute fruit-stalks.

SEEDS many; oblong; crooked at the point. HUDS.

ESS. CHAR. *Empal. leaves* 3. *Petals* about 8; with a pore containing honey on the inside of the claws. *Seeds* bare. ST.

Obs. Corresponds with *Ranunculus* in its honey-cup, and with *Anemone* and *Adonis* in the uncertain number of petals; between which last, and *Ranunculus*, it is the connecting link on one side, as it is between *Ranunculus* and *Galtha* on the other. ST.

FICA'RIA *ver'na*. *Empal. leaves* sometimes 4. TREW. common —4 and 5. CURT.

Ludw. 52.—*Fl. dan.* 499.—*Curt.* ii. 13.—*Blackw.* 51.—*Walc.*—*Fuchf.* 867, *cop. in J. B.* iii. 468, and *Lonic.* i. 166. 1.—*Dod.* 49, *repr. in Lob. obsf.* 323. 1, *ic.* i. 593. 2, *Ger. em.* 816, and *cop. in Park.* 617. 3, and *Pet.* 38. 1.—*Ger.* 669.—*Matth.* 831.—*Trag.* 613.

Plant smooth. *Roots* composed of several granules or little bulbs. *Stem* trailing, somewhat angular, hollow. *Lower-leaves* opposite, on leaf-stalks, heart-shaped, somewhat angular, scolloped, bluntish, glossy, the uppermost sometimes solitary. *Leaf-stalks* channelled, half embracing the stem, much longer than the leaves. *Fruit-stalk* terminating, furrowed towards the top. *Empal.* a small reflected scale underneath each leaf. *Petals* oblong, blunt, yellow. *Seed-buds* blunt. As the plant withers, egg-shaped little bulbs arise in the bosom of the leaves. LYONS.

Ranunculus Ficaria. LINN. CURT. which see.

Lesser Celandine.

Meadows and pastures.

P. April.

The young leaves may be eaten in the spring along with other pot-herbs. Goats and Sheep eat it. Cows and Horses refuse it.

Curculio dorsalis is found upon it.

It

It chokes up other plants that grow near it. LINN.—On this account it proves a very troublesome inmate in gardens, into which it is not unfrequently introduced along with loam. ST.

758. TROL'LIUS. Globe-flower,

EMPAL. none.

BLOSS. *Petals* about 14; nearly egg-shaped; deciduous; 3 in each of the 3 outer rows, and 5 in the innermost. *Honey-cups* 9; strap-shaped; flat; crooked; perforated on the inner side at the base.

CHIVES. *Threads* numerous; bristle-shaped; shorter than the blossom. *Tips* upright.

POINT. *Seed-buds* numerous; fitting; like pillars. *Shafts* none. *Summits* sharp-pointed; shorter than the chives.

S. VESS. *Capsules* numerous; forming a knob; egg-shaped, with a crooked point.

SEEDS solitary.

ESS. CHAR. *Empal.* o. *Petals* about 14. *Capsules* many; egg-shaped; containing many seeds.

Gowlans TROL'LIUS *europæus*. *Petals* approaching. *Honey-cups* as long as the chives.—

Fl. dan. 133.—*Clus.* i. 237. 1, repr. in *Dod.* 430. 1, *Lob. obs.*

385. 1, *ic.* i. 675, *Ger. em.* 955. 12.—*Ger.* 809. 13.—*J. B.*

iii. 419.—*H. ox.* xii. 2. 2.—*Math.* 613.—*Park. par.* 219. 11.

Blossoms closed, yellow. *Honey-cups* yellow, not longer than the chives. *Seed-buds* or *pointals* upright. LINN.—*Leaves* round in their circumscription, divided to the base into 5, segments very entire at the base, jagged upwards; these segments again deeply divided into 3 lobes, the middlemost of which with 3 clefts, all sharply serrated or jagged on the outer edge, nearly entire on the inner. *Capsules* ribbed transversely, terminated by a crooked horn, pointing outwards, giving the head a star-like appearance. MR. WOODW.—*Blossoms* globular.

Globe-flower. Locker-Gowlans.

Sides of mountains, and mountainous meadows in Wales and the North of England. HUDS.—Skirrith Wood, and moist woods about Settle, Yorkshire. CURT.—Scotland. LIGHTF.—[Near Troutbeck, Westmoreland. MR. WOODWARD.] P. May. June.

It is cultivated in our flower gardens.

Goats, Sheep, and Swine eat it. Cows and Horses refuse it.

760. HELLEBORUS. Hellebore.

EMPAL. *Cup* none; unless you reckon the blossom such, which, in some species, is permanent.

BLOSS. *Petals* 5; circular; blunt; large. *Honey-cups* many; very short; placed in a circle; consisting of 1 leaf; tubular; narrowest beneath. *Mouth* with 2 lips; upright; notched at the end; the inner lip the shortest.

CHIVES. *Threads* numerous; awl-shaped. *Tips* compressed; narrowest in the lower part; upright.

POINT. *Seed-buds* generally 6; compressed. *Shafts* awl-shaped. *Summits* rather thick.

S. VESS. *Capsules* compressed; keeled at both edges; the lower edge the shortest; the upper the most convex; opening.

SEEDS several; round; fixed to the seams.

ESS. CHAR. *Empal.* o. *Petals* 5 or more. *Honey-cups* with 2 lips; tubular. *Capsules* with many seeds; nearly upright.

HELLEBORUS *viridis*. Stem cloven. Branches greenflowered leafy, with 2 flowers. Leaves fingered.

Jacq. fl. ii. 106.—*Blackw.* 509 and 510.—*Fuchf.* 274, *cop. in J.*

B. iii. 636.—*Clus. i.* 275. 1, *repr. in Dod.* 385. 2, *Lob. obs.*

387. 2, *ic. i.* 680. 2, *Ger. em.* 976. 2, and *cop. in Park.* 212.

2 and 3, and *H. ox. xii.* 4. 5.—*Ger.* 825. 2.—*Trag.* 405, *cop. in Lonic. i.* 171. 2.—*Matth.* 1221.

Root-leaves becoming longer than the stem. All the leaves from the root.* Stalk leafless.† Flowers nodding, green. LINN.—*Pointals* 3, sometimes though rarely 4, and very rarely 5. CRANTZ.—*Leaflets* spear-shaped, cut-ferrated. *Flower-leaves* sheathing the branches and fruit-stalks, usually with 3 clefts, the outer of which sometimes deeply cloven, spear-shaped, ferrated. Mr. WOODW.

Woods and dry pastures. Bigwin Clofes, Ditton, and Whitwell, Cambridgeshire. Arundel Castle, Suffex. Knowlton, E. Kent; and Stoken-Church, Oxfordshire. [Orchard near Mr. Ballard's, Robinson's-End, Malvern Chace. Mr. WELLES. Mr. BALLARD.]

P. March. April.

* † This seems a slight error, as it is inconsistent with what follows. ST.

sinking HELLEB'ORUS *fœt'idus*. Stem with many flowers, leafy. Leaves bird-footed.—

Blackw. 57.—*Fuchf.* 275, *cop. in J. B.* iii. 880, and abridged in *Trag.* 251.—*Dod.* 386, *repr. in Lob. obs.* 387. 4, *ic. i.* 680. 1, *Ger. em.* 976. 4, in fruit.—*Lob. obs.* 387. 3, *repr. in ic. i.* 679. 2, *Ger. em.* 976. 3, and *cop. in Park.* 212. 3. (it should be 4) and *H. ox.* xii. 4. 6, in flower; serratures of the leaves represented as bristles.—*Ger.* 826.

All the leaves on the stem, none towards the root. LINN.—Leaves deep green. Branches, leaf-scales, floral-leaves, and flowers pale greenish yellow. Leaf-scales at the divisions of the branches oval-spear-shaped, embracing the stem, solitary, with 3 deep clefts at the end tinged with purple. Floral-leaf oval-spear-shaped, entire, solitary, at the base of each fruit-stalk, tinged with purple. Mr. WOODWARD.—Blossoms somewhat globular, green, sometimes tinged with purple at the edges. Stem about a yard high.

Bears-foot. Setterwort. [Oxheel. ST.]

Meadows, shady places, and hedges. Cherry-hinton, Fulbourn, Triplow, Cambridgeshire. Downs near Chichester, Suffex. Woods between Gounsbury and Blackwell, Somersetshire. [Bath Hills, near Bungay, Suffolk. Mr. WOODWARD.] P. Apr.

The dried leaves are frequently given to children to destroy worms, but they must be used sparingly, being violent in their operation, and instances of their fatal effects are recorded. The country people put the root into setons made through the dewlaps of oxen. A decoction of 1 or 2 drams, either of this, or of the preceding species, is a sharp purge.

761. CAL'THA. Meadow-bout.

EMPAL. Cup none.

BLOSS. Petals 5; egg-shaped; nearly flat; expanding; large; shedding.

CHIVES. Threads numerous; thread-shaped; shorter than the petals. Tips compressed; blunt; upright.

POINT. Seed-buds from 5 to 10; oblong; compressed; upright. Shafts none. Summits simple.

S. VESS. Capsules from 5 to 10; short; tapering; expanding; keeled at both edges; opening at the upper seam.

SEEDS many; roundish; enlarging; fixed to the upper seam.

ESS. CHAR. *Empal.* o. *Petals* 5. *Honey-cups* o. *Capsules* several; with many seeds.

OBS. Differs from *Ranunculus* in wanting an empalement, from *Helleborus* in having no honey-cup, and from both in having a double row of chives.

CAL'THA *palustris*.—

marsh

Munt. phyt. 436. 122.—*Curt.* i. 8.—*Fl. dan.* 668.—*Matth.* 846.—

Clus. ii. 114. 1, repr. in *Dod.* 598. 1, *Lob. obs.* 323. 2, *ic.* i.

594. 1, *Ger. em.* 817. 1.—*Trag.* 142, cop. in *J. B.* iii. 470,

and cop. in *Lonic.* i. 88. 3, and *Park.* 1213. 1.—*Ger.* 670. 2

and 1.—*Walc.*

Capsules 4 to 12. Mr. HOLLEF.—Leaves sometimes scolloped, sometimes entire. Mr. WOODW.—Leaves kidney-shaped. *Petals* yellow, from 5 to 7, somewhat concave. *Chives*, inner row with broad tips, the outer row twice as long, club-shaped, and the tips compressed. *Capsules* sometimes more than 10. WITH.

Marsh Marigold. Meadow-bouts.

Moist meadows and pastures. Granchester Meadow, Cambridge. RELHAN.—Banks of rivers, [and Alder Swamps. ST.]

P. April. May.

2. Blossoms double. RAY. RELHAN.

Park. 1213. 2.—*Clus.* ii. 114. 2, repr. in *Ger. em.* 818. 3.—*Ger.*

681. 3.

The flowers gathered before they expand, and preserved in salted vinegar, are a good substitute for capers. The juice of the petals, boiled with a little alum, stains paper yellow. The remarkable yellowness of butter in the spring is supposed to be caused by this plant; but Cows will not eat it, unless compelled by extreme hunger, and then, Boerhaave says, it occasions such an inflammation that they generally die. Upon May-day the country people strew the flowers before their doors.

Goats and Sheep eat it. Cows, Horses, and Swine refuse it.

Class XIV.

D I D Y N A M I A.

II. CHIVES LONGER.

THE essential character of this Class consists in the Flowers being furnished with 4 Chives, 2 of which are *long*, and 2 *short*. The short Chives stand next together and adjoining to the shaft of the Pointal. They are covered by the Blossom, which is irregular in its shape. This Class comprehends the *Whorled Plants*, the *lipped*, the *masked*, the *gaping*, and the *grinning* flowers of other authors. It admits of the following NATURAL CHARACTER:

EMPAL. Cup 1 leaf; upright; tubular; with 5 clefts; *segments* unequal; permanent.

BLOSS. 1 *petal*; upright. The base tubular; containing honey; and serving for a honey-cup. *Border* generally gaping; the *upper Lip* straight; the *lower Lip* expanding, with 3 *segments*; the middle one the broadest.

CHIVES. *Threads* 4; strap-shaped; fixed to the tube of the bloss. but leaning towards the back of it. *Threads* all parallel; seldom taller than the blossom. The 2 middle threads shorter than those on each side. *Tips* generally covered by the upper lip of the blossom, and approaching each other so as to stand in pairs.

POINT. *Seed-bud* generally superior. *Shaft* single; thread-shaped; bent in the same manner as the chives, and generally standing in the midst of them, but somewhat longer, and a little crooked at the top. *Summit* generally cloven.

S. VESS. either none, (as in the first Order) but when there is one, (as in the second Order) it generally consists of 2 cells.

SEEDS in the *first Order* 4; seated at the bottom of the cup. In the *second Order* many; fixed to the receptacle; which is placed in the middle of the seed-vessel.

OBS.

Obs. The flowers of this Class are, for the most part, nearly upright, but leaning a little from the stem, so that the blossom may more effectually cover the tips from the rain, and the dust more easily fall upon the summit. The plants in the first Order of this Class are oderiferous, cephalic, and resolvent. None of them are poisonous.

Order I.

GYMNOSPERMIA; SEEDS NAKED.

* Cups generally with 5 clefts.

780. LEONU'RUS. Tips sprinkled with particles of a bony substance.
773. GLECO'MA. Tips in pairs; each pair forming a cross.
771. MEN'THA. Threads distant; straight. Bloss. nearly equal.
35. VERBE'NA. Bloss. nearly equal. Upper segment of the cup the shortest.
764. TEU'CRIUM. Bloss. without any upper lip; upper segment of the petal divided.
763. A'JUGA. Bloss. upper lip shorter than the chives.
- GALEOB'DOLON. (HUDS.) Bloss. upper lip entire, vaulted; lower lip with 3 clefts; segments taper-pointed. ST.
776. BETON'ICA. Bloss. upper lip flat; ascending. Tube cylindrical. Chives as long as the mouth of the tube.
774. LA'MIUM. Bloss. with a bristle-shaped tooth on each side the lower lip, (or rather mouth. WITH.)
775. GALEOP'SIS. Bloss. with 2 teeth upon the lower lip.
777. STA'CHYS. Bloss. lateral segments of the lower lip reflected. Chives after shedding their dust turned to the sides.

768. NEP'ETA. *Bloss.* lower lip scolloped. *Mouth* with the edge reflected.
 778. BALLO'TA. *Cup* with 10 scores. *Bloss.* upper lip vaulted.
 779. MARRU'BIUM. *Cup* with 10 scores. *Bloss.* upper lip flat and straight.

† *Origanum.*

** *Cups with 2 Lips.*

792. SCUTELLA'RIA. *Cup* after flowering appears as if closed with a cover resembling a helmet.
 785. THY'MUS..... *Cup* closed at the mouth with soft hairs. (* *In Melissa Calamintha, and M. Nepeta, the mouth of the empalement is also closed with hairs. WITH.*)
 793. PRUNEL'LA. *Threads* forked at the end.
 784. ORIG'ANUM..... *Cups* inclosed in a tiled cone.
 783. CLINOPO'DIUM. *Cups* inclosed in a fence.
 789. MELIT'TIS. *Cup* wider than the tube of the blossom. *Upper Lip* of the blossom flat and entire. *Tips* crossing each other.
 786. MELIS'SA..... *Cup* angular; skinny; upper lip ascending.

† *Teucrium. (WITH.)*

Order II.

ANGIOSPERMIA; SEEDS COVERED.

* *Cups with 2 Clefts.*

841. OROBAN'CHE. *Caps.* 1 cell. *Bloss.* nearly equal; with 4 clefts. A gland at the base of the seed-bud.

*** *Cups*

** Cups with 4 Clefts.

801. LATHRÆ'A. Caps. 1 cell. Bloss. gaping. A gland at the base of the seed-bud.
797. BART'SIA. Caps. 2 cells. Bloss. gaping. Cup coloured.
799. EUPHRA'SIA. Capsule 2 cells. Bloss. gaping. Lower Tips thorny.
798. RHINAN'THUS. Caps. 2 cells; compressed. Bloss. gaping.
800. MELAMPY'RUM. Capsule 2 cells. Bloss. gaping. Seeds 2; bellying.

*** Cups with 5 Clefts.

837. LIMOSEL'LA. Caps. 1 cell. Bloss. bell-shaped; regular. Seeds many.
814. SCROPHULA'RIA. Caps. 2 cells. Bloss. facing upwards; the lip with a middle segment more within than the rest.
836. SIBTHOR'PIA. Caps. 2 cells. Bloss. wheel-shaped. Chives placed 2 and 2; approaching.
816. DIGITA'LIS. Caps. 2 cells. Bloss. bell-shaped; distended on the under side. Chives declining.
808. ANTIRRHI'NUM. Capsule 2 cells. Bloss. gaping; with a projecting honey-cup beneath.
804. PEDICULA'RIS. Capsule 2 cells. Blossom gaping. Seeds coated.

Order I.

GYMNOSPERMIA; SEEDS NAKED.

763. A'JUGA. Bugle.

EMPAL. *Cup* 1 leaf; short; with 5 shallow clefts; nearly equal; permanent.

BLOSS. 1 *petal*; gaping. *Tube* cylindrical; crooked. *Upper Lip* very small; upright; cloven; blunt. *Lower Lip* large; expanding; with 3 segments; blunt; middle segment large; inversely heart-shaped; lateral segments small.

CHIVES. *Threads* 4; (2 short, and 2 long;) awl-shaped; upright; taller than the upper lip. *Tips* double.

POINT. *Seed-bud* with 4 divisions. *Shaft* thread-shaped; agreeing in size and situation with the chives. *Summits* 2; slender; the lowermost the shortest.

S. VESS. none. The *Cup* closes and retains the seed.

SEEDS 4; rather long.

ESS. CHAR. *Bloss.* the upper lip very small. *Chives* longer than the upper lip.

pyramidal A'JUGA *pyramidalis*. Plant forming a woolly 4-cornered pyramid. Root-leaves very large, LINN.—Leaves near together. Floral-leaves nearly entire. ST.*

Fl. dan. 185.—(*Ludw.* 8.—*Riv. mon.* 76. 2, *Bugula mont.*—*Pet.* 34. 4.—*J. B.* iii. 432. 1.—*Pluk.* 18. 3, *H. ox.* xi. 5. 3, and *Blackw.* 64. 2, as growing in a dry soil, are *A. genevensis*.†)

* *Foliiis approximatis, bracteis sub-integris.* ST.

† The above figures of *J. B.* and *Pluk.* are what Ray refers to, which should induce one to believe his plant to have been the *A. genevensis*, which Schreber has well distinguished by the character of *lowermost leaves narrower, flower-leaves with generally 3 lobes*. Trew in his edition of *Blackw.* says, that the *A. genevensis*, in a dry soil, is much lower, and more compact, and this he supposes to be Linnæus's *A. pyramidalis*; but Mr. Woodward informs me, that a plant of the latter, which he received from the North of England, whence he cannot recollect, and cultivated in his garden, retained its pyramidal form during the whole course of its growth. ST.

Plant as taken from the bottom to the top resembling a pyramid, very simple, clothed with leaves pointing 4 ways, gradually increasing in height, the whole often decorated with leaves which, excepting the root-leaves, are of a violet colour, serpentine at the edge, imperfectly scolloped. *Flowers* whitish, or bluish. *Suckers* none. *Flowers* 3 together. LINN. Mr. WOODWARD.—*Stem* very hairy. *Leaves* very hairy; *root-leaves* oblong-wedge-shaped, fitting, entire, very large; *stem-leaves* oval, slightly toothed or scolloped, not 3-lobed, diminishing upwards, so as to give the whole plant somewhat of a pyramidal form; in opposite alternate pairs; the upper tinged with purple. *Floral-leaves* longer than the flowers. *Flowers* from the bosom of the leaves, not more than 3 together. *Empalement* very hairy, divided half way down; *segments* awl-shaped, nearly equal. *Bloss.* narrow, twice as long as the empalement; tips hairy. *Tips* and *summits* standing out beyond the upper lip. Mr. WOODW.—*Stem-leaves* oblong-inversely egg-shaped, the uppermost longer than the flowers. ST.

(*Phyllochnois* Renealm. *spec.* 125, is very properly referred by Hall. to *A. genevensis*. ST.)

Sicklewort.

Mountains. Carnedd Llewellyn, Caernarvonsh. RAY.—Ben Nevis in Lochaber, the Burn of Killogower, and Ord of Caithness. Dr. HOPE. P. JUNE. HUDS. B. May and June. LIGHTF.

Sheep and Goats eat it. Cows are not fond of it. Horses and Swine refuse it.

A'JUGA *rep'tans*. Smooth, with creeping suckers.— common

Curt. ii. 13.—Sheldr. 35.—Riv. mon. 75. 1, Bugula.—Fuchf. 391, cop. in. J. B. iii. 430. 2.—J. B. iii. 430. 3.—Walc.—Trag. 311.—Blackw. 64. 1.—Lonic. i. 145. 2.—H. ox. xi. 5. row 3. 1.—Barr. 337 and 338.—Matth. 962, cop. in Dod. 135. 2, which repr. in Lob. obj. 252. 1, ic. i. 475. 2, Ger. em. 631. 1, and cop. in Park. 525; and again cop. in Ger. 506. 1.

Leaves egg-shaped. *Root-leaves* scolloped, on leaf-stalks. *Stem-leaves* nearly entire, fitting, in opposite cross pairs; the upper purplish. *Bloss.* blue, red, or white, in long leafy spikes. WITH.

Bugle.—Moist meadows, pastures, and woods. P. May.—July. The roots are astringent, and strike a black colour with vitriol of iron.

764. TEU'CRIUM. Germander.

EMPAL. *Cup* 1 leaf; with 5 shallow clefts; nearly equal; hunched on one side the base; sharp; permanent.

BLOSS. 1 *petal*; gaping. *Tube* cylindrical; short; ending in a crooked mouth. *Upper Lip* upright; sharp; deeply divided; *segments* standing wide. *Lower Lip* with 3 clefts; expanding; *lateral segments* a little upright; of the shape of the upper lip; the *middle* one large; circular.

CHIVES. *Threads* 4; awl-shaped; longer than the upper lip of the blossom, and projecting between its segments. *Tips* small.

POINT. *Seed-bud* with 4 divisions. *Shaft* thread-shaped; agreeing in size and situation with the chives. *Summits* 2; slender.

S. VESS. none. The *Cup* remaining unchanged contains the seeds within it.

SEEDS 4; roundish.

ESS. CHAR. *Bloss. upper lip may be said to be wanting; divisions 2; extending below the base; straddling; the chives rising between them.*

OBS. The upper lip of the blossom being deeply divided, and the segments standing wide asunder, make it appear as if the upper lip was wanting.

Ground Pine TEU'CRIUM *Chamæpitys*. Leaves with 3 clefts, strap-shaped, very entire. Flowers sitting, lateral, solitary. Stem spreading.—

Ludw. 130.—*Riv. mon.* 14. 1, *Chamæpitys*.—*Fl. dan.* 733.—*H. ox.* xi. 22. row 3. 1.—*Dod.* 46. 1, repr. in *Lob. obs.* 207. 2, ic. i. 382. 2, *Ger. cm.* 525. 1.—*Matth.* 940.—*Ger.* 421. 1, abr. in *Park.* 283. 1.—*Fuchf.* 886, cop. in *J. B.* iii. 295. 1.—*Trag.* 80.—*Blackw.* 528.—*Lonic.* i. 159. 2.—*J. B.* ib. 2.

Empal. teeth not awned. *Fruit-stalks* not unfrequently lengthening out while the flowers are withering. GOUAN.—*Bloss.* yellow, with minute red dots. RELHAN.—*Stem* hairy. *Leaves* hairy, the lower entire, the rest cloven deeper and deeper till the upper ones are almost divided to the base; segments strap-shaped. *Flowers* nearly on one side of the stalk, single, or in pairs. *Empalement* very hairy. *Bloss. lower lip*, middle segment somewhat heart-shaped, smooth, the rest very hairy. MR. WOODWARD.

Ground Pine.

Fallow fields. On the Lays about the border of Triplow Heath, Cambridgehire; about Rochester and Dartford, Kent. Roehill.

A. June. July.

This plant has a degree of bitterness and acrimony, but its real use is far from being accurately ascertained. It stands recommended in the gout, jaundice, and intermitting fevers.

TEU'CRIMUM *Scorodonia*. Leaves heart-shaped, serrated, on leaf-stalks. Bunches lateral. Flowers pointing one way. Stem upright.—

Curt. v. 50.—Blackw. 9.—Dod. 291, repr. in Lob. obs. 262. 1, ic. i. 497. 2, Ger. em. 662, and cop. in Park. 111. 2.—H. ox. xi. 20. 15.—Riv. mon. 12.—Fl. dan. 485.—Trag. 15. 2, cop. in Lonic. i. 112. 3.—J. B. iii. 295. 1, and 294.—(Ger. 536, is a Melissa.)

Blossoms white. Threads purplish. LINN.—Blossoms straw-coloured. RELHAN.—Stem square, hairy. Leaves rough. Empalement semi-transparent, veined, smooth, upper lip much the largest. Mr. WOODWARD.—Leaves tooth-ferrated. Empalement with 2 lips, upper lip bent back, sharp-pointed, the lower concave, with 4 sharp teeth. Mr. HOLLEFEAR.—Stems 4-cornered, hairy. Branches opposite. Leaves heart-spear-shaped, opposite, wrinkled. Flowers in pairs. Empalement a little woolly, upper lip broad, bent back, pointed; the lower with 4 very shallow clefts terminating in pointed teeth bent inwards. Blossoms woolly; tube longer than the empalement; upper lip none, but the top of the tube slightly cloven; lower lip sprinkled on the outside with minute white globules, middle segment concave. Tips brownish yellow. Blossoms greenish straw-colour. WITH.

Wood Sage.

Woods, heaths, thickets, and ditch banks.

P. July.

The people of Jersey are said to make use of it in brewing. It possesses the bitterness and a good deal of the flavour of hops, but upon trial it gave too much colour to the liquor.

TEU'CRIMUM *Scordium*. Leaves oblong, sitting, water tooth-ferrated. Flowers in pairs, on fruit-stalks at the base of the leaves. Stem spreading. LINN.—Lower flowers frequently solitary. Mr. WOODWARD.

Blackw. 475.—Fl. dan. 593.—Math. 842.—Ger. 534. 1 and 2.—Trag. 885.—Riv. mon. 11, Scordium.—Dod. 126. 2, repr. in Lob. obs. 261. 3, ic. i. 497. 1, Ger. em. 661, and cop. in Park. 111. 1.—H. ox. xi. 22. 14.—Lonic. i. 196. 3.—Fuchf. 776, cop. in J. B. iii. 292. 2.

Stem

Stem cylindrical, hairy. *Leaves* hairy, fitting, tapering and entire at the base, ferrated upwards, those at the top of the branches oval-spear-shaped, nearly entire. *Empalement* hairy, purplish. Mr. WOODWARD.

Marshes of the Isle of Ely. Between Cambridge and Histon. Waterbeach. Cottenham. P. July. Aug.

The fresh leaves are bitter and somewhat pungent. Powdered they destroy worms. A decoction of this plant is a good fomentation in gangrenous cases. If Cows eat it when compelled by hunger, their milk gets a garlick flavour.

Sheep and Goats eat it. Horses, Cows, and Swine refuse it.

common TEUCRIUM *Chamæ'drys*. Leaves wedge-egg-shaped, cut, scolloped, on leaf-stalks. Flowers in threes. Stems somewhat hairy.—

Tourn. 97. 1. β .—*Sheldr.* 87.—*Blackw.* 180. β .—*Riv. mon.* 10.—*Fuchf.* 869, *cop. in J. B.* iii. 288. 1. β .—*Ger.* 530. 1, 2, and 3. β .—*Matth.* 818.—*Trag.* 204, *cop. in Lonic.* i. 62. 4.—*Dod.* 43. 1, *repr. in Lob. obs.* 260. 1, *ic.* i. 491. 1, *Ger. em.* 656. 1, *cop. in Park.* 104, and *abridged in H. ox.* xi. 22. 11.—*Clusf.* i. 351. 1, *repr. in Dod.* 43. 2, *Lob. ic.* i. 491. 2, *Ger. em.* 656. 2, and *cop. in H. ox.* xi. 22. 10. β .

Floral-leaves ferrated. *Blossoms* purple; lip flat, with 3 slight clefts. LINN.—*Stem* cylindrical, hairy. *Leaves* on leaf-stalks, deeply jagged, entire at the base, hairy; the upper oval-spear-shaped, often purple. *Flowers* on fruit-stalks. Mr. WOODWARD.—*Leaves* cut only from the middle upwards, beset underneath with white globules. *Empal.* the upper segment broadest, the 2 lower ones narrowest, beset without with white globules. *Bloss.* reddish purple, beset without with white globules, middle segment of the lower lip lopped, with a double row of hairs at the base. *Tips* chestnut-coloured, beset behind with white globules. WITH.

Common. Germander.

Borders of corn fields far from any house. Ruins of Winchelsea Castle. RAY.—[Norwich city walls. Mr. CROWE.—In the Area of Carisbrook Castle in the Isle of Wight. ST.] P. June. July.

The plant is bitter, with a degree of aroma, and may be used with advantage in weak and relaxed constitutions. It is an ingredient in the celebrated gout powders.

768. N E P' E T A. Nep.

EMPAL. *Cup* 1 leaf; tubular; cylindrical; *mouth* 5 teeth; sharp; upright; the *upper* the longest; the *lower* most expanded.

BLOSS. 1 *petal*; gaping. *Tube* cylindrical; crooked; border open. *Mouth* expanding; heart-shaped; terminated by 2 very short, reflected, blunt segments. *Upper Lip* upright; circular, notched at the end. *Lower Lip* circular; concave; large and entire; a little scolloped at the edge.

CHIVES. *Threads* 4; 2 long, and 2 short; awl-shaped; approaching; covered by the upper lip. *Tips* fixed sideways.

POINT. *Seed-bud* with 4 clefts. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* cloven; sharp.

S. VESS. none. The *Cup* standing upright contains the seeds.

SEEDS 4; somewhat egg-shaped.

ESS. CHAR. *Bloss.* the middlemost segment of the lower lip scolloped; the edge of the mouth bent back. *Chives* approaching.

OBS. If you reckon the segments of the mouth as part of the lower lip, that lip will appear to have 3 divisions.

N E P' E T A *Cata'ria*. Flowers in spikes. Whorls *cat's* on short fruit-stalks. Leaves on leaf-stalks, heart-shaped, tooth-ferrated.

Blackw. 455.—*Fl. dan.* 530.—*Dod.* 99, repr. in *Lob. obs.* 276. 1, ic. i. 511. 1, *Ger. em.* 682. 1, and abridged in *Pet.* 32: 1. —*Matth.* 719,—*Lonic.* i. 112. 1.—*Riv. mon.* 52, *Nepeta*.—*Trag.* 15. 1.—*Ger.* 554. 1.—*H. ox.* xi. 6. row 2. 3.—(*Fuchf.* 434, cop. in *J. B.* iii. 225. 1, seems more to resemble *Ballota nigra*.)

Leaves of a velvet-like softness. *Whorls* mostly turned to one side of the stem. *Empalement* downy, with green ribs. *Blossoms* white, with a tinge of red, and spotted with purple; tube nearly straight; *lower lip*, middle segment with 6 or 7 equal teeth turned upwards, and set with a tuft of white bristles at the base. *Chives* rather longer than upper lip. *Tips* purple. *Dust* white. *Stem* and *leaves* white with down. WITH.

Nep.

Nep. Cat Mint

Pastures and hedges in a calcareous soil. [Near Bungay, Suffolk, and Hertfordshire. Mr. WOODWARD.] P. July.

An infusion of it is deemed a specific in chlorotic cases. Two ounces of the expressed juice may be given for a dose. Cats are so delighted with this plant, that they can hardly be kept out of the garden wherein it grows. Mr. Miller says, that cats will not meddle with it if it is raised from seeds; and, in support of this opinion, quotes an old saying, "If you set it, the cats will eat it, if you sow it, the cats will not know it." It cannot well be planted without being more or less bruised. ST.

Sheep eat it. Cows, Horses, Goats, and Swine refuse it.

35. VERBE'NA. Vervain.

EMPAL. *Cup* 1 leaf; angular; tubular; permanent; the tube of equal thickness; with 5 teeth; 1 of the teeth lopped.

BLOSS. 1 *petal*; unequal. *Tube* cylindrical; straight; as long as the cup; dilated; and bowed inward towards the top. *Border* expanding; with 5 shallow clefts; the *segments* rounded; nearly equal.

CHIVES. *Threads* 4; bristly; very short; concealed within the tube of the blossom; 2 longer than the other 2. *Tips* crooked; either 2 or 4.

POINT. *Seed-bud* 4-cornered. *Shaft* simple; thread-shaped; as long as the tube. *Summit* blunt.

S. VESS. very fine and thin, but generally none; the cup containing the seeds.

SEEDS 2 or 4; oblong.

ESS. CHAR. *Bloss.* funnel-shaped; crooked; segments nearly equal. *Empal.* 1 of the teeth lopped. *Seeds* 2 or 4; naked. *Chives* 2 or 4.

Obs. The ingenious Scopoli first removed this genus from the class Diandria, placing it after *Mentha*, at the end of this class, alledging, that it formed the connecting link between the *Verticillatæ* and *Personatæ*. This disposition was adopted in the 1st edition of this work, and since by Mr. Hudson and Mr. Curtis; but its connection with the *Verticillatæ* is more plausible than real, it being truly one of the *Personatæ*, amongst which Linnæus has very properly placed it in his *ordines naturales*. And in an artificial system this genus should keep the place allotted it by Linnæus. ST.

VERBE'NA

VERBE'NA officina'llis. Chives 4. Spikes thread-shaped; panicked. Leaves with many jagged clefts. Stem single.— *common*

Ludw. 149.—Curt. i. 5.—Riv. mon. 56, *Verbena*.—Walc.—Clus.

ii. 45. 2, repr. in Dod. 150. 1, Lob. obs. 289. 2, ic. i. 534.

2, Ger. em. 718. 1, and cop. in Park. 675. 1.—Fl. dan. 628.

—Blackw. 41.—Trag. 210.—Matth. 1052.—Ger. 580. 1.—

Fuchf. 593, cop. in J. B. iii. 443.—Lonic. i. 138. 2.

Flowers of a whitish reddish hue. LINN.—Lower-leaves deeply lobed, and jagged, the upper with 3 clefts, or simple. Mr. WOODWARD.—Stem nearly 4-cornered. Flowering branches in opposite pairs. Floral-leaves spear-shaped. Empal. one of the teeth much smaller and shorter than the rest, but not lopped; angles hairy. Bloss. tube fringed at the top with hairs; mouth with 2 lips, the upper cloven into 2, the lower into 3 nearly equal segments. Tips pale yellow. Shaft compressed, broadest towards the top, much shorter than the tube, but nearly as long as the empalement. Seeds 4. WITH.

Vervain. Simpler's Joy.

Waste places and high road sides.

P. CURT. B. HUDS. A. LIGHTF.

It manifests a slight degree of astringency. The root, worn at the pit of the stomach, an infusion, and an ointment prepared from the leaves, are said to produce good effects in scrophulous cases; (*Morley's Essay on Scrophula*;) but this wants confirmation from the more rational and less enthusiastic practitioner. Miller says it is never found more than a quarter of a mile from a house, which is the reason of the common English name mentioned above.

Sheep eat it. Cows, Goats, and Horses refuse it. LINN.

A Horse repeatedly eat it. ST.

771. MEN'THA. Mint.

EMPAL. Cup 1 leaf; tubular; upright; with 5 teeth; equal; permanent.

BLOSS. 1 petal; upright; tubular; rather longer than the cup. Border with 4 divisions; nearly equal. The Upper Segment the broadest, and notched at the end.

CHIVES. Threads 4; awl-shaped; upright; distant; the 2 next each other the longest. Tips roundish.

POINT. Seed-bud cloven into 4. Shaft thread-shaped; upright; longer than the blossom. Summit cloven; expanding.

S. VESS. none. Cup upright; containing the seeds.

SEEDS 4; small.

ESS. CHAR. Bloss. with 4 clefts; segments nearly equal; the broader of them nicked. Chives upright; distant.

OBS. In *M. aquatica* the chives are all nearly of the same length.

horse MEN'THA *sylvestris*. Spikes oblong. Leaves oblong, serrated, cottony, sitting. Chives longer than the blossom. LINN.—Sometimes only as long as the blossom. HUDS.

Riv. mon. 51. 1.—Fl. dan. 484.—Clus. ii. 32. 1, repr. in Dod. 96, Lob. obs. 273. 1, ic. i. 509. 2, Ger. em. 684. 3, and cop. in Park. 33. 6, H. ex. xi. 6. 6, and Pet. 31. 11.—Fuchs. 292, cop. in J. B. iii. 221.—Trag. 20. 1.—Matth. 714.—(Blackw. 292, too much resembles *M. piperita*.)

Leaves whitish, woolly and cottony underneath. LINN.

Marshy and watery places. Burwelbeck, Lincolnshire; behind the alm-houses Great Yeldham, Essex.—Lewisham, Kent, between Ripley and Guildford. [Bungay, Suffolk, frequent. Mr. WOODWARD.] P. Aug.

β. HUDS. Ger. em. 685. 5.—J. B. iii. 222.

By the river side at Bocking, Essex. RAV.

hairy MEN'THA *villosa*. Spike oblong. Leaves sitting, egg-spear-shaped, serrated, pointed, woolly. Chives shorter than the blossom. HUDS.—Chives sometimes only as long as the blossom. Leaves sometimes spear-shaped, and egg-shaped. HUDS.

(J. B. iii. 220, is *M. viridis*.)

Very nearly allied to the *M. viridis*. Possibly not a distinct species. HUDS.—Smooth. Differs from *M. viridis* as follows. Stems red, taller,

taller, thicker, and stronger, and divided at the top into more flowering branches. *Leaves* blacker, shorter, and not so taper-pointed, appearing blunter, more wrinkled, teeth not so fine. *Flowers* smaller and paler. *Scent* stronger, and not so agreeable. RAY.—This description but ill accords with Mr. Hudson's character of woolly leaves, and a single spike. ST.

Mentha spicata folio variegato. G. B. pin. 227.—*Menthastrum spicatum, folio crispo rotundiore, colore partim albo, partim cinereo vel virente.* J. B. iii. 219? I have a garden specimen of this plant, which accords very exactly with Mr. Hudson's character, but I do not know that this is the plant intended by Mr. Hudson. ST.

On the river side at Bocking, Essex, and on the Medway near Maidstone. RAY.

β. Spike broader and more hairy. RAY.

Bocking Essex, between the Fulling Mill and Harries Mill.

γ. Leaves broader. RAY.

Meadow on the right hand of Marwood Bridge, between Mersey Island and Colchester. RAY.

δ. Leaves cottony. HUDS.—In Kent. RAY.

MEN'THA *viridis*. Spikes oblong. Leaves spear-shaped, naked, serrated, sitting. Chives longer than the blossom.—

Ger. 552. 2.—Dod. 95. 4, repr. in Lob. obs. 271. 4, ic. i. 508.

1, Ger. em. 680. 4, and cop. in Park. 31.—Dod. 95. 3, repr.

in Lob. obs. 271. 3, ic. i. 507. 2, and Ger. em. 680. 3, and

abridged in Pet. 31. 7.—Fuchs. 290, cop. in J. B. iii. 220,

Trag. 20. 2, and Lonic. i. 113. 2.—Matth. 712.

Very nearly allied to *M. sylvestris*, but smaller and smoother. Blossoms purplish red. LINN.

Watery places and banks of rivers. Near Exmouth, Devonsh. and on the banks of the Thames. HUDS. P. July. Aug.

The flavour of this species being more agreeable than that of the others, it is generally preferred for culinary and medicinal purposes. A conserve of the leaves is very grateful, and the distilled waters, both simple and spirituous, are universally thought pleasant. The leaves are used in spring sallads; and the juice of them, boiled up with sugar, is formed into tablets. The distilled waters, and the essential oil, are often given to stop reachings, and frequently with success. From the circumstances noticed under *M. arvensis*, it has been imagined, that cataplasms and fomentations of Mint, would dissolve coagulations of milk in the breasts; but Dr. Lewis says, that the curd of milk, digested in a strong infusion of Mint, could not be perceived to be any otherwise affected

than by common water; however, milk in which Mint leaves were set to macerate, did not coagulate near so soon as an equal quantity of the same milk kept by itself. Dr. Lewis says, that dry Mint, digested in rectified spirits of wine, gives out a tincture, which appears, by day-light, of a fine dark green, but, by candle-light, of a bright red colour. The fact is, that a small quantity of this tincture is green, either by day-light or by candle-light, but a large quantity of it seems impervious to common day-light; however, when held between the eye and a candle, or between the eye and the sun, it appears red; so that if put into a flat bottle it appears green, but when viewed edgeways red.

A Horse refused it. ST.

round-leaved MEN'THA *rotundifolia*. Spikes oblong, Leaves roundish, scolloped, sitting. LINN.—Scolloped-toothed, wrinkled, woolly. Chives longer than the blofs. HUDS.

Riv. mon. 51. 2.—Ger. 555. 1, cop. in Pet. 31. 12.—J. B. iii. 219. 2.

Blossoms pale red, or purple.

Menthastrum folio rugoso rotundiore spontaneum flore spicato, odore gravi. J. B. iii. 219. R. fyn. 234. (ST.)

Watery places. River side Lydbrook, near Ross, Herefordsh. near Faulkburn Hall, Essex, and near Hally, Kent. Hornsey and Harefield church yards. BLACKST. P. Aug.

round-headed MEN'THA *hirsuta*. Flowers in heads. Leaves egg-shaped, serrated, nearly sitting, downy. Chives longer than the blossom.—

Ger. 555. 2, cop. in J. B. iii. 224.—Blackw. 32.

Differs from *M. aquatica* in the leaves having shorter leaf-stalks, agrees in general habit and the chives being longer than the blofs. *Empalement* fringed. *Pointal* longer than the blossom. *Blofs.* with 4 deep clefts nearly regular. LINN.—Leaves smaller and more pointed than *M. aquatica*. Blossoms purplish white. RAY.

Sides of rivers and wet places.

P. Aug.

β. Heads and leaves smaller, rounder, and blunter. Flowers smaller, not so much branched. RAY.

Ray 10. 1. at p. 231.

On the road side from Pevensey to East Borne. RAY.

water MEN'THA *aquatica*. Flowers in heads. Leaves egg-shaped, serrated, on leaf-stalks. Chives longer than the blossom.—

Riv.

Riv. mon. 49, *M. pal. spic.*—*H. ox.* xi. 7. 6.—*Fuchf.* 722, *cop.* in *J. B.* iii. 223.—*Matth.* 486, *cop.* in *Dod.* 97, which repr. in *Lob. obs.* 272. 2, ic. i. 509. 1, *Ger. em.* 684. 1, improved in *Park.* 1243, and abridged in *Pet.* 31. 6.—*Lonic.* i. 114. 1.—(*Fl. dan.* 673, is totally unlike it.)

Empalement hairy. *Blossoms* hairy, segments nearly equal. *Mr. HOLLEFEAR.*—*Plant* not hairy. The terminating *whorls* crowded into a head or blunt spike. *LINN.*—*Stem* reddish towards the top, and set with a few bristly hairs pointing downwards. *Leaves* egg-spear-shaped, a little hairy on both sides, sometimes woolly. *Branches* generally shorter than the leaves. *Empalement* coloured, ribbed, hairy without, scored within; teeth not quite equal, glands semi-transparent. *Blossoms* hairy without. *Chives* half as long again as the blossom, nearly equal. *Blossoms* pale red. *WITH.* Watery places and banks of rivers. *P. Aug.* Horses eat it. Swine refuse it.

β. hirsuta. HUDS.—*M. hirsuta*, which see.

γ. HUDS.—*M. hirsuta β*, which see.

Obs. It varies in having leaves hairy, and rough, and chives shorter than, equal to, and longer than the blossom. HUDS.—I am inclined to assent to Mr. Hudson's opinion. Linnæus's *hirsuta* was adopted from the 1st edition of the *Fl. angl.* ST.

MEN'THA piperita. Flowers in heads. Leaves *pepper* egg-shaped, on leaf-stalks. Chives shorter than the blofs. LINN.—*Flowers* sometimes in whorled spikes, and the leaves in gardens almost bare. HUDS.

Ray 10. 2. at p. 231, is referred to by Linnæus, I apprehend inadvertently, as the chives are longer than the blossom.—*Pet.* 31. 9.

Leaves broader than the common sort of *Pepper Mint*. But this sort is perhaps rather to be arranged along with the *Water Mints*. DILL. in *R. syn.*—*Stem* upright. *Blossoms* purplish red. Under each whorl there are 2 pointed, spear-shaped, hairy floral-leaves.

Mentha spicis brev. et habitior. fol. Menthæ fuscæ, sapore fervido Piperis, folio latiore. DILL. in *R. syn.* 235.

2. Flowers in spikes. ST.

Knigge *disf.*—*Blackw.* 291. 2 and 1.—*Pet.* 31. 10.

Spikes terminating the stem and upper branches, consisting of from 9 to 12 whorls. *Whorls*, the lower on fruit-stalks at a distance from each other. In external appearance corresponding with *M. viridis*, for which it may easily be mistaken, but in *M. viridis* the stem is taller, the leaves with scarcely any leaf-stalks, narrower in proportion to their length, spikes longer, composed of more whorls. KNIGGE. ST.—This is the *Pepper Mint* of our gardens.

It belongs to the division of the *spicata*, has the nearest affinity to the *M. viridis*, and appears to me to be a species distinct from the *M. piperita* of Linnæus. ST.

Mentha spicis brevioribus et habitioribus, foliis Menthæ fuscæ, sapore fervido Piperis. R. syn. 234. n. 7.

Watery places and sides of rivulets. In Hertfordsh. and Essex, and between Newington and Hornsey. P. Aug.

The stem and leaves are beset with numbers of very minute glands, containing the essential oil, which rises plentifully in distillation. The Pepper Mint water is well known as a carminative and anti-spasmodic. Junipers essence of Pepper Mint is an elegant medicine, and possesses the most active properties of the plant.

marsh MEN'THA *sativa*. Flowers in whorls. Leaves egg-shaped, somewhat pointed, serrated. Chives longer than the blossom. LINN.—Stems upright. Leaves on leafstalks, pointed, woolly. HUDS.

Fl. dan. 794.—*Riv. mon.* 48. 1, *M. vert.*—*H. ox.* xi. 7. row 1. 2.—*Dod.* 95. 1. repr. in *Lob. obs.* 271. 1, ic. i. 507. 1, *Ger. em.* 680. 1, cop. in *Pet.* 31. 8, and ill cop. in *Park.* 32. 4.*—*Fuchf.* 288, cop. in *J. B.* iii. 216.—(*Ger.* 552. 1, is *Melissa Calamintha*.—*Matth.* 712, is a spiked Mint.)

Leaves smooth, sometimes hairy, slightly wrinkled. RAY.

Marshy places and sides of rivulets.

P. July. Aug.

red MEN'THA *gentilis*. Flowers in whorls. Leaves egg-shaped, pointed, serrated. Chives shorter than the blossom. LINN.—Stems spreading. Leaves nearly sitting, egg-spear-shaped, almost naked. Chives shorter, as long as, or somewhat longer than the blossom. HUDS.

Fl. dan. 736.—*Fuchf.* 291, cop. in *J. B.* iii. 217. 1.—(*Dod.* 95. 1, repr. in *Lob. obs.* 271. 1, ic. i. 507. 1, *Ger. em.* 680. 1, cop. in *Pet.* 31. 8, and ill cop. in *Park.* 32. 4, though referred to by Ray and Hudson, seems rather to be *M. sativa*.—*H. ox.* xi. 7. row 1. 1, leaves spear-shaped.—*Ger. em.* 684. 4, is a spiked Mint.)

Very much resembling *M. arvensis*, but not so hairy, the stems red, and the chives not longer than the tube of the blossom. Whorls lateral. Bloss. lower segment pointed. Empalement sprinkled with resinous dots. LINN.—Stems red, smooth. Leaves bare or slightly hairy.

* C. B. and Lightf. but referred to *M. gentilis* by Ray and Hudson. ST.

hairy. HUDS.—Stems 4-cornered, with more or less of a reddish tinge towards the top. *Leaf-stalks* flat, short. *Whorls* composed of 2 lateral rundles on very short fruit-stalks. *Floral-leaves* 4 or 5 under each whorl, 2 spear-shaped, the rest smaller and strap-shaped. *Empalement* slightly ribbed, coloured, sprinkled with thinning dots. *Blossom* with white hairs on the outside, and within the tube. *Chives* all of the same length, shorter than the blossom. *Shaft* half as long again as the blossom, falling off. *Seed-buds* 4, on a yellowish green fleshy receptacle. *Blossom* pale red. WITH.

Mentha rubra a. HUDS.

Watery places and sides of rivulets.

P. July. Aug.

A Horse eat it. ST.

β. HUDS.—Mr. Hudson's references to figures are only transcripts from Dillenius's edition of R. syn. the former of which, *Trag.* 24, is *M. arvensis*; *Fuchs.* 291, is referred by Linnæus to *M. gentilis*; and *Lob. ic. i.* 505, referred to by Dillenius, is the very same figure which just above he has very properly referred to *M. arvensis*.)

Differs from *M. arvensis* in having narrower and smooth leaves.

RAY.—I have specimens which accord with this account of Ray, which induces me to believe Ray's plant to have been rather a variety of *M. arvensis*. ST.

Hop ground at Bocking. Upper end of Stoke Newington, by the side of the New River. RAY.

MEN'THA *arvensis*. Flowers in whorls. Leaves *corn* egg-shaped, pointed, serrated. Chives as long as the blossom. LINN.—Stems spreading. Leaves on leaf-stalks, woolly. Chives shorter, as long as, and longer than the blossom. HUDS.

Fl. dan. 512.—*Fuchs.* 435, cop. in *Trag.* 16. 2, and *J. B.* iii.

217. 2.—*Lob. obs.* 270. 1, repr. in *ic. i.* 505. 2, *Ger. em.*

684. 2, and cop. in *Park.* 37. 5.—*Pet.* 31. 5.—*Matth.* 718, improved in *Trag.* 24.—*H. ox.* xi. 7. row 2. 5. f. 2.

Stems spreading. Whorls lateral. Whole plant hairy. Chives equal in length to the border of the blossom. *Blofs.* lower segment blunt. *Empalement* hoary. LINN.—Chives often lye within the tube, so that were it not for the blunt middle segment of the blossom, it might be supposed to be *M. gentilis*. POLLICH.—Whole plant covered with soft white hairs, of a paler green than *M. gentilis*. Stem not tinged with red; hairs pointing downwards. Leaves towards the top egg-spear-shaped, towards the bottom roundish. Whorls composed of 2 opposite rundles. Rundles fitting. *Empalement* pale green, beset with soft white hairs, interspersed with very minute

femi-transparent glands. *Blossoms* hairy within and without. *Chives* in some plants longer than the blossom. WITH.

Watery places and moist corn fields.

P. July.—Sept.

It prevents the coagulation of milk; and, when Cows have eaten it, as they will do largely at the end of summer, when the pastures are bare, and hunger distresses them, their milk can hardly be made to yield cheese; a circumstance which sometimes puzzles the dairy maids.

Horses and Goats eat it. Sheep are not fond of it. Cows and Swine refuse it.

Pennyroyal MEN'THA *Pulegium*. Flowers in whorls. Leaves egg-shaped, blunt, somewhat scolloped. Stems roundish, creeping. Chives longer than the blossom.—

Ludw. 195.—*Blackw.* 302.—*Riv.* 23. 1, *Pulegium*.—*Fuchf.* 198, *cop. in J. B.* iii. 256. 2, and *Trag.* 23.—*Matth.* 704, *cop. in Dod.* 282, which repr. in *Lob. obs.* 266, ic. i. 500. 1, *Ger. em.* 671. 1, and *cop. in Park.* 29, and *Pet.* 32. 2.—*Lonic.* i. 114. 3.—*H. ox.* xi. 7. row 2. 1.—(*Ger.* 545. 1, seems *M. cervina*.)

Leaves rather inversely egg-shaped. ST.—Stems with 4 blunt corners, hairy, branched. *Leaves* thick, slightly toothed, underneath set with deep semi-transparent dots. *Bloss.* twice as long as the empalement, hairy without. *Chives* equal. *Pointals* as long as the chives. *Bloss.* pale purple. WITH.

Moist heaths and pastures. [Side of a pool at Robert's End, near Hanley Castle, Worcestershire. MR. BALLARD.—Side of a pool at Erdington, Warwickshire. WITH.] P. Aug. Sept.

The expressed juice, with a little sugar, is not a bad medicine in the Hooping Cough. A simple, and a spirituous water, distilled from the dried leaves, are kept in the shops. They are prescribed in hysterical affections, and are not without considerable anti-spasmodic properties. An infusion of the plant may be used with the same intention.

β. HUDS. *Mentha exigua*. Flowers in whorls. Leaves spear-egg-shaped, smooth, pointed, very entire. LINN.

The figures referred by Linnæus to his *M. exigua* have serrated leaves, that of *Lob. ic.* 505, is *M. arvensis*, and *Fuchf.* 291, is also referred by Linnæus himself to *M. gentilis*. But Linnæus does not give any reason to suppose that his plant had any peculiar affinity with *M. Pulegium*, and Ray's plant is MR. HUDSON'S *M. gentilis*. β. The present I can only conjecture to a *M. Pulegium* with narrower leaves than usual. ST.

Musca pipiens; *Cassida viridis*, and *Phalana Chrysitis*, live upon the different species.

773. GLECO'MA. Gill.

EMPAL. *Cup* 1 leaf; tubular; cylindrical; scored; very small; permanent; *rim* with 5 teeth; taper; unequal.

BLOSS. 1 *petal*; gaping. *Tube* slender; compressed. *Upper Lip* upright; blunt; with a shallow cleft. *Lower Lip* expanding; large; blunt; with 3 segments; the middle one largest, and notched at the end.

CHIVES. *Threads* 4; 2 long and 2 short; covered by the upper lip. *Tips* of each pair of chives approaching so as to form a cross.

POINT. *Seed-bud* cloven into 4. *Shaft* thread-shaped; leaning under the upper lip. *Summit* cloven; sharp.

S. VESS. none. The seeds lye at the bottom of the cup.

SEEDS 4; egg-shaped.

ESS. CHAR. *Each pair of Tips* approaching in form of a cross. *Empalemennt* with 5 clefts.

GLECO'MA *hedera'cea*. Leaves kidney-shaped, Ground-Ivy scolloped.—

Ludw. 62.—*Vaill.* 6. 5 and 6.—*Curt.* ii. 24.—*Fl. dan.* 789.—

Riv. mon. 67. 2, *H. minor.*—*Lonic.* i. 205. 2.—*Matth.* 626.—

Dod. 394, repr. in *Lob. obs.* 336. 2, ic. i. 613. 2, *Ger. em.*

856. 1, and cop. in *Park.* 677. b.—*Walc.*—*J. B.* ii. 855. 2.—

Ger. 705.—*Fuchf.* 876.—*Blackw.* 225.—*Trag.* 799.

Little protuberances composed of many cells, are sometimes found upon the leaves, and are occasioned by insects. LINN.—*Stem* creeping, 4-cornered, woolly at the knots. *Leaves* opposite, on leaf-stalks, somewhat hairy. *Leaf-stalks* channelled, as long as the leaves. *Fruit-stalks* from the bosom of the leaves, opposite, branched, with 3 to 5 flowers, short. *Floral-leaves* awl-shaped, very small, growing to the fruit-stalks. *Flowers* blue. *Empalement* hairy, awned. *Bloss.* much longer than the empalement. *Throat* woolly. LYONS.—The chives are sometimes imperfect, consisting of threads only half the usual length, and terminated by a reddish blunt point. ST. in *Bot. Arr. ed.* i.—Sometimes they are furnished with tips, but containing no dust. *Threads* thread-shaped, white. *Tips* oblong, pale brown, distant, containing no dust, scarcely broader than the threads. ST.—*Roots* sending out trailing suckers. *Leaves* heart-kidney-shaped, beset underneath with hollow dots, in which are glands secreting an essential oil, and above with little eminencies, but which do not secrete any odoriferous

oil, for this surface being rubbed gives out no peculiar scent, whereas the under surface affords a pleasant reviving scent. WITH.

Ground Ivy. Cats-foot. Ale-hoof. Tun-hoof. Robin run in the hedge.

Hedges and shady places.

P. Apr. May.

The leaves are thrown into the vat with ale, to clarify it, and to give it a flavour. Ale, thus prepared, is often drank as an anti-scorbutic. The expressed juice, mixed with a little wine, and applied morning and evening, destroys the white specks upon Horses eyes. The plants that grow near it do not flourish. It is said to be hurtful to Horses if they eat much of it.

Sheep eat it. Horses are not fond of it. Cows, Goats, and Swine refuse it. LINN.—A Horse eat it. ST.

The *Phalæna libatrix*, and the *Cynips Glecomæ*, live upon it.

β. HUDS.—*Riv. mon.* 67. 1, *Hedera terrestris*.—*Vaill.* 6. 5.—

Clus. ii. 38. 2, *repr. in Ger. em.* 704. 6.—*Park.* 677. a.

[Near Worcester. ST.]

774. LA'MIUM. Archangel.

EMPAL. *Cup* 1 leaf; tubular; wider towards the top; with 5 teeth, and awns; nearly equal; permanent.

BLOSS. 1 *petal*; gaping. *Tube* cylindrical; very short. *Border* open. *Mouth* bladder-shaped; compressed; hunched; with a little tooth turned backwards on each side. *Upper Lip* vaulted; circular; blunt; entire. *Lower Lip* shorter; inversely heart-shaped; notched at the end; reflected.

CHIVES. *Thaeads* 4; awl-shaped; 2 long and 2 short; covered by the upper lip. *Tips* oblong; hairy.

POINT. *Seed-bud* with 4 clefts. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* cloven; sharp.

S. VESS. none. The *Cup* remaining open contains the seeds in its bottom.

SEEDS 4; short; 3-cornered; convex on one side; lopped at each end.

ESS. CHAR. *Bloss.* upper lip entire; vaulted; lower lip with 2 lobes; edge of the mouth with a tooth on each side.

white LA'MIUM *album*. Leaves heart-shaped, tapering to a point, serrated, on leaf-stalks. Flowers about 20 in a whorl.—

Ludw. 162.—Curt. ii. 20.—Riv. mon. 62. 1.—Fl. dan. 594.—Blackw. 33.—Walc.—Trag. 8. 1.—Ger. 566.—Matth. 1129, cop. in Dod. 153. 1, which repr. in Lob. 280. 2, ic. i. 520. 2, Ger. em. 702. 1, and cop. in Park. 605. 3.

Empalement marked with a black spot. Bloss. sometimes flesh-coloured. LINN.—Stem a foot high, square, upright, hairy, hollow, terminated by leaves. Leaves opposite, pointed, sprinkled with minute hairs. Leaf-stalks broader at the base, longer towards the root. Flowers 12 to 20 in a whorl. Empalement fitting, marked with purple scores at the base, with mostly 10 angles. Bloss. twice as long as the empalement, white; tube short. Tips hairy, black. LYONS.—Stems square, nearly smooth. Empal. awns straight, very long. MR. WOODWARD.—Blossom sometimes slightly tinged with red. CURT.

White Archangel. White Dead Nettle.

On rubbish, corn fields, and ditch banks. P. May. June.

Goats and Sheep eat it. Cows are not fond of it. Horses and Swine refuse it.

LA'MIUM purpu'reum. Leaves heart-shaped, blunt, red on leaf-stalks.—

Curt. i. 8.—Sheldr. 69.—Fl. dan. 523.—Blackw. 182. 1.—Riv. mon. 62. 2, Galeopsis minor.—Ger. 568. 4.—Walc.—Dod. 153. 2, repr. in Lob. obs. 280. 1, ic. i. 120. 1, Ger. em. 703. 3, and cop. in Park. 605. 1, and 587. 11, and H. ox. xi. 11. 9.—(Ger. 568. 3, is another species.—Fuchs. 469, Lonic. i. 109. 2, and Trag. 4. 2, are different plants.)

Stem square, terminated by leaves, branched near the root. Leaves opposite, heart-shaped, notched, veined, the lowermost smaller, and on longer leaf-stalks, the uppermost crowded. Leaf-stalks widened at the base, long. Whorls within the upper leaves. Flowers 6 in the bosom of each leaf, in a double row. Empalement awned, fringed. LYONS.—Leaves serrated, downy, but not rough. Bloss. lower border of the mouth whitish, with purple streaks, the rest pale red. WITH.

Red Dead Nettle. Dee Nettle, (Worcestershire.) ST.

Rubbish, corn fields, and kitchen gardens.

A. LINN. and LIGHTF. P. HUDS.

The young leaves, both of this and the preceding species, may be eaten with other pot herbs.

Goats, Sheep, and Horses eat it. Cows refuse it.

β. HUDS.—Leaves deeply cut. RAY.

cut-leaved

Pet.

Pet. 33. 3.—*Fluk.* 41. 3.*

Leaves deeply cut, so as almost to be lobed, tapering down into leaf-stalks. It would be worthy of cultivation, to try if it would not turn out to be a distinct species. Mr. WOODWARD.

Kitchen gardens and fallow fields, not unfrequent. On a bank between Pimlico and Chelsea. CURT.

Henbit *LA' M I U M amplexicaule.* Floral-leaves sitting, embracing the stem, blunt.—

Curt. ii. 19.—*Riv. mon.* 63. 1 and 2.—*Fl. dan.* 752.—*Lob. ic. i.* 463. 2, repr. in *Ger. em.* 616. 4, and cop. in *Park.* 752. 2, *Pet.* 33. 4, and *H. ox. xi.* 11. 12.—*Ger.* 493. 4.—(*Clus.* ii. 38. 2, seems rather *Glechoma hederacea* β.)

The *Blossoms* with us do not open, but fall off before they are fully unfolded, so that during a whole summer one shall scarcely find more than 1 or 2 plants with perfect flowers, and these only in the middle of the summer and sunny exposure. The *helmets* of such are velvety, purple, and but just projecting out of the empalement. LINN.—*Flowers* of two kinds, the first expanding in February and March, only a little longer than the empalement; the latter opening in May and June 4 times as long as the empalement, all containing chives and pointals. CURT.—*Lower leaves* on leaf-stalks, heart-shaped, blunt, deeply and bluntly terrated; the *upper* in opposite pairs, heart-shaped, broad, sitting, inclosing but not embracing the stem, with 5 lobes; lobes scolloped, the middle one as broad again, and with 3 clefts at the end, the lateral ones small. *Blossoms* purple. Mr. WOODWARD.

Great Henbit.

Sandy corn fields, and cultivated ground.

A. Feb.—June.

Sheep, Horses, and Goats eat it.

* Does not represent the leaves deeply cut enough. Mr. WOODWARD.

775. GALEOP'SIS. Allheal.

EMPAL. *Cup* 1 leaf; tubular; with 5 teeth; ending in sharp awns as long as the tube; permanent.

BLOSS. 1 *petal*; gaping. *Tube* short. *Border* open. *Mouth* somewhat wider than the tube, and as long as the cup. Above the base of the lower lip on each side lies a little tapering tooth; hollow on the under surface. *Upper Lip* circular; concave; serrated at the top. *Lower Lip* with 3 segments; the lateral ones circular; the *middle* one larger; scolloped, notched at the end.

CHIVES. *Threads* 4; 2 long and 2 short; awl-shaped; covered by the upper lip. *Tips* roundish; cloven.

POINT. *Seed-bud* with 4 clefts. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* cloven; sharp.

S. VESS. none. The *Cup* stiff; straight; containing the seeds.

SEEDS 4; 3-cornered; lopped.

ESS. CHAR. *Upper Lip* of the blossom vaulted; somewhat scolloped; lower lip with 2 teeth above.

OBS. In *G. Ladanum* the upper lip of the blossom is a little reflected, but not very evidently scolloped. In the *G. Galeobdolon* the lower lip of the blossom is without teeth; and divided into 3 equal segments; and the upper lip entire and fringed with a few soft hairs.

GALEOP'SIS *Lad'anum*. Stem of an equal thickness between each joint. All the whorls remote. Empal. not pungent. LINN.—Leaves strap-spear-shaped, nearly bare. HUDS. narrowleaved

Riv. mon. 24. 1, leaves.—*Pet.* 33. 11.

Stem, knots scarce sensibly swollen. *Empal.* teeth hardly to be called thorny or pungent. *Bloss.* helmet keeled. LINN.—*Stem* upright, 4-cornered, somewhat hairy, with spreading branches. *Leaves* opposite, on leaf-stalks, sometimes spear-shaped, serrated, and sometimes very entire; taper-pointed, naked, or somewhat hairy, with 3 or 4 serratures on each edge. *Flowers* red, slightly woolly. *Bloss.* helmet toothed; lips scolloped, with the middlemost segment pointed with red and white. *Empal.* teeth taper-pointed, or thorny. HUDS.—*Stem* purplish, nearly smooth. *Leaves* pale green.

green. *Empal.* with short awns, very hairy. Mr. WOODWARD.—Stems branched, thickest upwards. *Leaves* entire, or distantly toothed, mostly pointing downwards. *Empalement* very hairy at the edges, and on the outside; teeth terminated by awns as long as the teeth. *Blossoms* reddish purple; *upper lip* oval, hairy without; *lower lip* bent back, irregularly scolloped, with 2 oval yellow spots within, underneath, and on the outside, a number of small white globules, some of which are likewise found on the cups; teeth not observable. *Dust* yellow. WITH.

Corn fields, in a calcareous soil, frequent. A. June.—Aug.

Goats and Cows eat it. Sheep are not fond of it. Horses refuse it.

hairy GALEOP'SIS *villo'sa*. Stem of an equal thickness between each joint. Whorls remote. Leaves spear-shaped, serrated, woolly. HUDS.

Riv. mon. 24. 2.—*Pet.* 33. 10.

Stem upright, 4-cornered, branching, woolly. *Branches* upright.

Leaves opposite, on leaf-stalks; those near the root egg-shaped, those of the stem spear-shaped, taper-pointed, sometimes silky, with straight veins. *Empal.* teeth thorny. *Bloss.* yellow, woolly; helmet toothed; lips scolloped. In habit it agrees with the *G. Ladanum*, but differs in the breadth, serratures, veins and woolly hairs of the leaves, and in the colour of the blossoms. HUDS.

Betonica hirta. HUDS. ed. i. and Bot. Arr. ed. i.

Sandy corn fields, Yorkshire and Lancashire. Near Newark, and about Bangor. A. July. Aug.

Nettle-Hemp GALEOP'SIS *Tet'rahit*. Stem thickest beneath the knots. The uppermost whorls mostly contiguous. *Empalements* somewhat pungent.—

Riv. mon. 31, *Cannab. spur.*—*Dod.* 153. 4, repr. in *Lob. ic.* i.

527. 2, and *Ger. em.* 709. 2. a.—*Ger. em.* 709. 1.—*Ger.* 573.

—*Pet.* 33. 8.

Knots swollen. *Empal.* teeth thorny. *Blossom*, helmet scolloped.

LINN.—*Bloss.* generally purple, sometimes white. RAY.—*Empal.* teeth terminated by sharp awns as long again as those of *G. Ladanum*. Mr. WOODWARD.—*Stem* where swollen, and also the teeth of the empalement, covered with small glands. Mr HOLLEFEAR.

narrowleaved β . HUDS.—Leaves narrower, of a deep green, and its habit differs from that of α . Knots red. Flowers white, tinged with red. Whorls purplish. RAY.

Near the Neat-houses, and on the road from thence to Chelsea. RAY.

γ . HUDS.

γ. HUDS.—Blossoms white, considerably larger than those of α. largeflowered RAY.

Cannabis spuria flore albo magno eleganti. R. fyn. 240.

δ. HUDS.—Blossoms twice as large, yellow, not purple; middle segment of the lip purple. Haller regards it as a distinct species, I as a variety. LINN.

Riv. mon. 32, *Cannab. spur. fl. maj.*—Lob. ic. i. 527. 3, cop. in

Ger. em. 709. 2. b, and cop. in Park. 599. 1.—Pluk. 41. 4.

Bloss. much longer than the empalement; middle segment of the lower lip purple. Mr. WOOD.—Bloss. straw-coloured; lower lip spotted with purple. Mr. WOODWARD.

Sheep and Goats eat it. Horses, Cows, and Swine refuse it. LINN.—A Horse refused it. WITH.

Corn field at the bottom of Ribton Lane, near Woodford, Essex. Sandy corn fields in Yorkshire and Lancashire. About Settle. CURT. A.

GALEOPSIS *Galeob'dolon.* Six flowers in a yellow whorl. Fence of 4 leaves. LINN.—Flowers 6 to 12 in a whorl. HUDS.

Galeob'dolon luteum. HUDS. which see.

The genus of this plant is obscure, as the divisions of the lip of the blossom are equal, and without teeth. Leaves sometimes spotted with white. Long wires from the root. LINN.

The *Phalæna Chrysitis*, and *Wauvaria*, live upon the different species.

GALEOB'DOLON. (HUDS.) Weasle-snout.

EMPAL. *Fence* underneath the whorls; leaves strap-shaped; pointed; shorter than the empalement. *Cup* 1 leaf; tubular; bell-shaped; with 5 teeth; taper-pointed; the upper tooth upright; distant; the 2 lower between bent back and open.

BLOSS. 1 *petal*; gaping. *Tube* cylindrical; short. *Upper Lip* oval; vaulted; nearly entire; fringed; woolly. *Lower Lip* shorter; with 3 clefts; unequal; the lateral segments egg-shaped; taper-pointed; the outer edge bent back; the middle segment longer; straight; taper-pointed.

CHIVES. *Threads* 4; awl-shaped; covered by the upper lip; 2 of them longer. *Tips* 2; oblong; double; convex above; concave underneath.

POINT. *Seed-bud* with 4 divisions. *Shaft* thread-shaped; of the length and situation of the chives. *Summit* cloven; pointed.

S. VESS. none. The empalement unchanged contains the seeds in its bottom.

SEEDS 4; short; 3-square; lopped. HUDS

ESS. CHAR. *Bloss.* upper lip entire; vaulted; lower lip with 3 clefts; segments taper-pointed. ST.*

yellow

GALEOB'DOLON *lu'teum*. HUDS. ST.

Curt. iv. 42, *Galeobdolon Galeopsis*.—Walc.—Dod. 153. 3, repr. in Lob. ic. i. 521. 1, Ger. em. 702. 2, and cop. in Park. 606, H. ox. xi. 11. 5, and Pet. 33. 6.—Riv. mon. 20. 2, Lam. fl. lut.—Ger. 567. 2.—J. B. iii. 323. 1.

Lower leaves heart-shaped; the upper egg-shaped, pointed. *Flowers* in whorls, sitting, 6 to 12 in a whorl. *Whorls* with a fence. *Bloss.* yellow; middle segment of the lower lip tawny, marked with 3 lines. HUDS.—*Floral-leaves* bristle-shaped, 1 at the base of each flower. *Bloss.* lower lip beautifully striped and spotted with deep orange. Mr. WOODWARD.—*Stems* 4-cornered, furrowed. *Leaves* spear-shaped, on leaf-stalks, unequally serrated, hairy, especially at the edges. *Whorls*, the uppermost with 6 flowers, the rest with from 7 to 10. *Fence*, leaves growing to the base of the empalements.

* Corollæ labium superius integrum, fornicatum; labium 3-fidum, laciniis acuminatis. ST.

Empalements. *Tips* fleshy or glandular on the back part. *Seeds* oblong, convex on the outer side, 3-cornered on the inner. WITH. *Yellow Archangel. Yellow Dead Nettle.*

Woods, shady places, and moist hedges. [Bath Hills, near Bungay, Suffolk; and woods, Norfolk. Mr. WOODW.—Hedges near Malvern Chace. Mr. BALLARD.—Woods near Worcester. ST.—Staffordshire and Warwicksh. frequent. WITH.] P. May.

776. BETON'ICA. Betony.

EMPAL. *Cup* 1 leaf; tubular; cylindrical; teeth 5; with awns; permanent.

BLOSS. 1 *petal*; gaping. *Tube* cylindrical; crooked. *Upper Lip* circular; entire; flat; upright. *Lower Lip* with 3 segments; the middle one broad; circular; notched at the end.

CHIVES. *Threads* 4; 2 long and 2 short; as long as the mouth of the blossom, and leaning towards the upper lip. *Tips* roundish.

POINT. *Seed-bud* with 4 divisions. *Shaft* in shape, size, and situation resembling the chives. *Summit* cloven.

ES. VESS. none. The *Cup* contains the seeds.

SEEDS 4; egg-shaped.

ESS. CHAR. *Empalement* awned. *Bloss.* upper lip ascending; flattish; tube cylindrical.

BETON'ICA *officinalis*. Spike interrupted. The wood middle segment of the blossom nicked.—

Ludw. 2.—Curt. iii. 26.—Riv. mon. 28, *Betonica*.—Ger. 577. 1. —Blackw. 46.—Sheldr. 36.—Fl. dan. 726.—Lonic. i. 138. 1. —Tourn. 96.—Clus. ii. 39. 1, repr. in Dod. 40. 1, Lob. obs. 286. 4, ic. i. 532. 2, Ger. em. 714, and cop. in Park. 614. 1, H. ox. xi. 5. row 1. 1. f. 1, and Pet. 32. 6.—Fuchf. 351, cop. in Trag. 198, and J. B. 301.—Matth. 944, cop. in Ger. 577. 2.

Stem hairy below, channelled above. Root-leaves on leaf-stalks, heart-spear-shaped, blunt, scolloped, teeth rounded; upper stem-leaves, especially underneath the whorls, nearly fitting, spear-shaped, between serrated and toothed; teeth horizontal. Floral leaves entire, hairy at the edge. RELHAN.—Stems square, hairy. Root-leaves oblong-heart-shaped, scolloped, hairy, on long leaf-stalks. Stem-leaves distant, spear-shaped, serrated. Mr. WOODW. —Stem, hairs lying flat, and pointing downwards. Empalement coloured,

coloured, with long hairs between the segments. *Bloss.* upper lip cloven at the end; middle segment of the lower lip scolloped. *Tips* chestnut-coloured. *Dust* white. *Root-leaves* on leaf-stalks, heart-shaped, hairy. *Blossoms* purple. *With.*

Wood Betony.

Woods and shady groves. [Meadows in St. Faith's, near Norwich. Mr. CROWE.—Ripton, Huntingdonshire. Pastures, Herts. Mr. WOODWARD.] P. July. Aug.

This plant was formerly much used in medicine, but it is discarded from the modern practice; however, it is not destitute of virtues, for when fresh it intoxicates, and the dried leaves excite sneezing. It is often smoked as tobacco. The root provokes vomiting.—Sheep eat it. Goats refuse it.

β. Blossoms white. LINN. ST. WITH.

777. STA'CHYS. Woundwort.

EMPAL. *Cup* 1 leaf; tubular; angular; with 5 shallow clefts; taper; permanent; teeth awl-shaped; taper; nearly equal.

BLOSS. 1 *petal*; gaping. *Tube* very short. *Mouth* oblong; hunched downwards towards the base. *Upper Lip* upright; somewhat egg-shaped; vaulted; generally notched at the end. *Lower Lip* large; with 3 segments; the 2 outer segments reflected; the middle one the largest; notched at the end; and folded back.

CHIVES. *Threads* 4; 2 long and 2 short; awl-shaped; bent to the sides of the mouth. *Tips* simple.

POINT. *Seed-bud* with 4 divisions. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* cloven; sharp.

S. VESS. none. The *Cup* but little changed contains the seeds.

SEEDS 4; egg-shaped; angular.

ESS. CHAR. *Upper Lip* of the blossom vaulted; lower lip bent back at the sides; the middle segment nicked. *Chives* when they have shed their dust bent towards the sides.

Obs. In some species the upper lip is upright.

hedge STA'CHYS *ylvatica*. Six flowers in a whorl. Leaves heart-shaped, on leaf-stalks.—

Curt. iii. 31.—Riv. mon. 26. 2, *Stachys sylvatica*.—Blackw. 84. 2.
—Cius. ii. 36. 1, repr. in Ger. em. 704. 5, and cop. in Park.
908. 1, H. ox. xi. 11. 10, and Pet. 32. 7.—Trag. 5, cop. in
Lonic. i. 109. 3.—Blackw. 84. 1.

Stem-leaves and empalement hairy. Floral-leaves spear-shaped,
pointed. Blossoms deep purple, with white spots. Mr. Woodw.
Hedge Nettle.—Hedges and woods. P. July. Aug.

It will dye yellow. The whole plant has a foetid smell, and
toads are thought to be fond of living under its shade.

Sheep and Goats eat it. Horses, Cows, and Swine refuse it.

β. HUDs. Smaller. Leaves angular.

STA'CHYS *palustris*. About 6 flowers in a whorl. *clown's*
Leaves strap-spear-shaped, half embracing the stem,
sitting.—

Curt. iii. 35.—Riv. mon. 26. 1, *Stachys palustris*.—Sheldr. 45.—
Ger. 565. 2, cop. in Ger. em. 1005.—Blackw. 273.—Ger.
852, imitated in Park. 852.—Pet. 33. 9.

Whorls with 6 to 10 flowers. LINN.—Stems 4-cornered, with
hairs bent downwards. Leaves opposite, heart-shaped at the base,
ferrated, hairy. Leaf-stalks short, scarcely half embracing the stem.
Whorls not terminating. Empalement tubular, with 10 scores, with
5 shallow clefts, hairy; segments egg-shaped, nearly equal. Bloss.
upper lip hairy, vaulted, nicked; lower lip with 3 clefts, the la-
teral segments bent back, variegated with red and white. LYONS.

—Stems 4-cornered, rough with hairs pointing downwards.
Leaves in opposite pairs, very soft, unequally ferrated, spreading
half way round the stem. Floral-leaves, 2 small ones under each
whorl. Empalement purple, beset with fine hairs terminating in
small globules. Bloss. reddish purple, mottled; tube white;
mouth compressed; upper lip, and all the segments of the lower
lip, slightly notched at the end. Threads a little hairy. Chives and
whaft reddish purple. Receptacle of the seeds glandular, green. WITH.

Clown's Woundwort. Clown's Allheal.

Watery places, and banks of rivers.

P. Aug.

The roots, when dried and powdered, will make bread.

Sheep eat the leaves, but Cows, Horses, Goats, and Swine
refuse them.

STA'CHYS *germanica*. Many flowers in a whorl. *german*
Serratures of the leaves lapping over each other. Stem
cob-webbed.—

Riv. mon. 27. 1, *Stachys mont.*—Fl. dan. 684.—Fuchf. 766, cop.
in J. B. iii. 320, and Trag. 9. 1; and imitated in Lonic. i. 110.

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1, which

1, which repr. in ii. 30. 4.—Ger. 563. 2.—Matth. 830, cop. in Dod. 90. 3, which repr. in Lob. obs. 285. 4; ic. i. 530 2, and Ger. em. 695. 2, and cop. in Park. 48. 2, and H. ox. xi. 10. 1.

Whole plant white. Stem cloathed with a long white wool. Leaves, ferratures somewhat tiled; the flower-leaves spear-shaped, bent back. Tips yellowish white. LINN.—Whole plant white with a thick silky down. Stem square. Lower-leaves heart-spear-shaped; the upper spear-shaped; thick, wrinkled, sharply ferrated. Bloss. lip covered with down. Mr. WOODWARD.—Bloss. white, with a purplish tinge within.

Base Horehound.

Hedges about Witney Park, Oxfordshire, plentifully, and 4 miles S. of Grantham, near the London road, opposite Easton. [Frequent in Oxfordshire. Mr. NEWBERRY.—Between Blenheim and Ditchley. Mr. WOODWARD.] P. July.

corn STACHYS *arvensis*. Six flowers in a whorl. Leaves blunt, almost naked. Blossoms as long as the empalement. Stem feeble.—

Curt. iv. 42.—Fl. dan. 587.—Riv. mon. 27. 2, *Stachys arv. min.*

—Pet. 33. 12. *All well done.*—(Park. 587. 11, is *Lamium purpureum*.)

Stem 4-cornered, blunt, with spreading branches rough with hair. Leaves heart-shaped, bluntly ferrated, much less hairy than the stem. Leaf-stalks hairy. Empalement fitting, hairy, with 5 equal, sharp-pointed, shallow clefts. Bloss. whitish, almost smaller than the empalement; helmet very entire; lip with 3 clefts, the middle one the broadest, purplish, dotted, not nicked. LINN.—Blossoms flesh-coloured. HALL. CURT.—It neither possesses the striking character of any other genus, nor sufficient marks of distinction to form a genus by itself. CURT.

Corn fields.

A. June.—Aug.

776. BALLO'TA Henbit.

EMPAL. *Cup* 1 leaf; tubular; salver-shaped; 5-cornered; and 10 scores; oblong; upright; permanent. *Rim* sharp; open; plaited; with 5 equal teeth. *General Fence* to the whorls formed of strap-shaped leaves.

BLOSS. 1 *petal*; gaping. *Tube* cylindrical; as long as the cup. *Upper Lip* upright; egg-shaped; entire; scolloped; concave. *Lower Lip* with 3 segments; blunt; the middle one the largest; notched at the end.

CHIVES. *Threads* 4; 2 long and 2 short; awl-shaped; leaning towards and shorter than the upper lip. *Tips* oblong; lateral.

POINT. *Seed-bud* with 4 clefts. *Shaft* thread-shaped; in shape and situation similar to the chives. *Summit* slender; cloven.

S. VESS. none. The *Cup* unchanged contains the seeds.

SEEDS 4; egg-shaped.

ESS. CHAR. *Empalement* salver-shaped; with 5 teeth and 10 scores. *Bloss.* upper lip scolloped; concave.

OBS. It has the fence of the CLINOPODIUM, the empalement of the MARRUBIUM, and the blossom of the STACHYS. It is most nearly allied to the MARRUBIUM.

BALLO'TA *ni'gra*. Leaves heart-shaped, undivided, *flinking* ferrated. Empalements taper-pointed. LINN.—Leaves oblong-egg-shaped. LINN. *fl. suec.* MR. DICKENSON. ST.

Blackw. 136.—*Fuchs.* 154, *cop. in J. B.* iii. 318. 1.—*Riv. mon.*

65. 1, *Marrubiastr.*—*Matth.* 825, *imitated in Clus.* ii. 34. 1,

which repr. in Dod. 90. 1, *Lob. obs.* 279. 1, *ic.* i. 518. 2, *Ger.*

em. 701. 1, and *cop. in Park.* 1230. 3, *H. ox.* xi. 9. 14, and

Pet. 32. 4.*

Plant hairy. Stem upright, square, brown, 2 feet high. Leaves opposite, on leaf-stalks, egg-shaped, ferrated, wrinkled, with nearly parallel veins; the lowermost heart-shaped at the base, the uppermost pointed at each extremity. *Fruit-stalks* very short, generally opposite, with many flowers. *Fence*, leaves many, awl-shaped, shorter than the empalements. *Empal.* pointed, awned. *Bloss.* purple, as long again as the empalement. *Chives* brown. LYONS.

* *Sabb.* iii. 35, floral-leaves represented as winged. MR. WOODWARD.

—Leaves egg-shaped. *Floral-leaves* egg-shaped. Mr. DICKENSON.
 —*Floral-leaves* bristle-shaped, from 1 to 3 to each fruit-stalk, some as long, others only half as long as the empalement. They cannot with propriety be considered as a *fence*, as they grow upon, and not under the fruit-stalk. Mr. WOODW. ST.—*Floral-leaves* hairy. *Whorls* extending half way round the stem. *Empal.* hairy; rim 5-cornered; teeth ending in sharp bristle-shaped points. *Bloss.* tube containing honey, closed above by 5 hairy tufts; *upper lip* hairy, not very entire, purple variegated with white lines. The *Empalements* attaining their full size long before the blossoms expand, the latter appear as if already fallen off, though, on examination, they will be found at the bottom of the empalement. WITH.

Stinking Horehound.

On rubbish and in hedges.

P. July.

It stands recommended in hysterical cases. The Swedes reckon it almost a universal remedy in the diseases of their cattle.

Horses, Cows, Sheep, and Goats refuse it.

β. HUDS.—Blossoms white, with a tinge of red. ST.

Sabb. iii. 36, *floral-leaves* represented as winged. Mr. WOODW.

Stem green. *Leaves* roundish heart-shaped; veins straddling; the uppermost somewhat pointed at the base. *Empal.* green, somewhat awned. *Fence* shorter than the empalement. *Bloss.* white, longer than the empalement. *Chives* yellow. LYONS.—*Empalement* not lopped, therefore cannot be the *Ballota alba* of Linnæus. HALL. ST.—In all respects, except the colour of the blossom, the same with *B. nigra*, and corresponding with the description given of it in the *Fl. succ.* ST.

Ballota alba. LINN. according to Mr. Hudson, which it may possibly be as in the *Syst. veg.* he expresses a doubt whether it may not be a variety of *B. nigra*. ST.

[Near Hammermith, on the road side. Mr. WOODWARD.—Norwich. Mr. CROWE—and Stafford. ST.]

779. MARRU'BIUM. Horehound.

EMPAL. *Cup* 1 leaf; funnel-shaped; tubular; with 10 scores. *Rim* equal; open; generally with 10 teeth; alternately smaller.

BLOSS. 1 *petal*; gaping. *Tube* cylindrical. *Border* open. *Mouth* long; tubular. *Upper Lip* upright; narrow; sharp; cloven a little way down. *Lower Lip* broader; reflected; with 3 shallow segments; the *middle* segment broad; notched at the end; the *lateral* segments sharp.

CHIVES. *Threads* 4; 2 long and 2 short; shorter than the blossom; covered by the upper lip. *Tips* simple.

POINT. *Seed-bud* with 4 clefts. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* cloven.

3. VESS. none. The *Cup* closed at the neck, but open at the rim, contains the seeds.

SEEDS 4; rather oblong.

ESS. CHAR. *Empalement* salver-shaped; stiff; with 10 scores. *Upper lip* of the blossom cloven; strap-shaped; straight.

* *Empalements* with 10 teeth.

MARRU'BIUM *vulga're*. Teeth of the empale- white ment bristle-shaped, hooked.—

Ludw. 145.—*Riv. mon.* 66. 1, *Marrubium alb.*—*Blackw.* 479.—*Ger.* 561. 1.—*Fuchf.* 590, ill cop. in *J. B.* iii. 316.—*Math.* 828.—*Lonic.* i. 110. 2.—*Trag.* 8. 2.—*Clus.* ii. 34. 1, repr. in *Dod.* 87. 1, *Lob. obs.* 278. 3; *ic.* i. 517. 2, *Ger. em.* 693. 1, and cop. in *Park.* 44, and *Pet.* 32. 3.—*H. ox.* xi. 9. row 3. 1.

Whole plant white with down. *Lower-leaves* roundish, wrinkled, with thick veins beneath; *upper-leaves* somewhat egg-shaped. **Mr. WOODWARD.**—*Leaves* wrinkled, hoary. *Empal.* woolly, fringed on the inside at the bottom of the teeth with woolly hairs. *Bloss.* compressed, bowed; upper lip spear-shaped; lower lip, middle segment slightly scolloped, lateral segments spear-shaped, short. *Chives* and *pointals* very short. *Tips* with a black substance in the middle. *Seed-buds* 4, egg-shaped. *Blossoms* white. **WITH.**

White Horehound.

Road sides and amongst rubbish.

P. July.

It is very bitter to the taste, and not altogether unpleasant to the smell. It was a favourite medicine with the ancients in obstructions of the viscera. In large doses it loosens the belly. It is a

principal ingredient in the Negro Cæsar's remedy for vegetable poisons.—A young man, who had occasion to take mercurial medicines, was thrown into a salivation, which continued for more than a year. Every method that was tried to remove it, rather increased the complaint. At length Linnæus prescribed an infusion of this plant, and the patient got well in a short time.

Horses, Cows, Sheep, and Goats refuse it.

780. LEONU'RUS. Motherwort.

EMPAL. *Cup* 1 leaf; tubular; cylindrical; but angular; with 5 edges, and 5 teeth; permanent.

BLOSS. 1 *petal*; gaping. *Tube* narrow. *Border* opening with a long mouth. *Upper Lip* the longest; semi-cylindrical; concave; hunched; roundish and blunt at the end; entire; covered with soft hairs. *Lower Lip* reflected; with 3 divisions. *Segments* spear-shaped; nearly equal.

CHIVES. *Threads* 4; 2 long and 2 short; covered by the upper lip. *Tips* oblong; compressed; cloven half way down; fixed sideways to the threads; sprinkled with very small, solid, shining, elevated, globular particles.

POINT. *Seed-buds* 4. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summits* cloven; sharp.

S. VESS. none. The *Cup* remaining unchanged contains the seed within it.

SEEDS 4; oblong; convex on one side; angular on the other.

ESS. CHAR. *Tips* sprinkled with shining dots.

common LEONU'RUS *Cardiaca*. Stem-leaves spear-shaped, with 3 lobes.—

Ludw. 5.—*Fl. dan.* 727.—*Riv. mon.* 20. 1, *Cardiaca*.—*Blackw.* 175.—*Dod.* 94, repr. in *Lob. obs.* 278. 1, ic. i. 516. 1, *Ger. em.* 705, and cop. in *Park.* 42. 7.—*Ger.* 569.—*Fuchs.* 395.—*Lonic.* i. 110. 3.—*H. ox.* xi. 9. 18.

Stem with spreading branches, the joints, and corners downy. *Flower-leaves* 2 at the base of each whorl, wedge-shaped, with 3 lobes, pointed. *Whorls* composing a kind of interrupted spike. *Flowers* about 20 in a whorl, sitting, crowded. *Fences* of several leaves, strap-awl-shaped, shorter than the empalements. *Empal.* awned,

awned, the 3 upper segments shorter, nearly upright, diverging; the 2 lowermost longer, somewhat bent down. *Bloss. tube* bowed, smooth; *upper lip* egg-shaped, rough with long white hairs on the outside; *lower lip* with 3 clefts, the lateral segments narrow, rolled back. *Seed-bud* with 4 divisions, smooth, bearded at the point. *Tips*, globules white, sometimes wanting. *Chives* after shedding their dust bent towards the sides of the blossom as in the *Stachys*.

RELHAN.—*Stem* and *branches* quadrangular, hairy at the edges.

Leaves opposite, on long hairy leaf-stalks; the lower serrated, slightly hairy and dark green above, beneath hairy and pale green; the upper less and less lobed, till at length only toothed, and frequently entire. *Whorls* in the bosom of the leaves. *Floral-leaves*

awl-shaped, 1 at the base of each outer flower on each side of the whorl. *Empal.* teeth ending in sharp awns. *Bloss. upper lip* very

hairy without, smooth within; the *lower* smooth, pale purple.

MR. WOODWARD.—*Stem* hollow. *Leaves* wrinkled. *Empalement*

beset with white shining glands. *Bloss. tube* thick; *upper lip* red

within, white without; *lower lip* dotted within; the lateral segments

rolled back, the middle one doubled together. *Chives* after flower-

ing turned to the sides as in the *Stachys*. *Tips* brown, partly covered

on the outer side with white opaque globules which look

like enamel, but are not of a bony hardness. WITH.

Motherwort.

Hedges, and on rubbish and dunghills. [Ditchingham, Norf.

in a hedge, and on an adjoining bank, in a gravelly soil. When

growing on dunghills it should seem to be the refuse of gardens.

MR. WOODWARD.] B. LINN. and HUDS. P. RELH. June.—Aug.

The leaves have a strong, but not an agreeable smell, and a

bitter taste.

Goats, Sheep, and Horses eat it. Cows are not fond of it.

Swine refuse it.

783. CLINOPO'DIUM. Basilweed.*

EMPAL. Fence of many bristle-shaped leaves, as long as the cup; placed under the whorls. Cup 1 leaf; cylindrical; a little curved. Mouth with 2 lips. Upper Lip broad; with 3 segments; sharp; reflected. Lower Lip deeply divided; slender; bent inwards.

BLOSS. 1 petal; gaping. Tube short; gradually widening into a mouth. Upper Lip upright; concave; blunt; notched. Lower Lip with 3 segments; blunt. Middle Segment broad; notched.

CHIVES. Threads 4; 2 long and 2 short; covered by the upper lip. Tips roundish.

POINT. Seed-bud with 4 divisions. Shaft thread-shaped; agreeing in length and situation with the chives. Summits simple; sharp; compressed.

S. VESS. none. The Cup, closing at the neck, and swelling out in the body, contains the seeds.

SEEDS 4; egg-shaped.

ESS. CHAR. Fence with many bristles; placed beneath the whorls.

round-headed

CLINOPO'DIUM *vulga're*. Heads roundish, rough with hair. Floral-leaves bristle-shaped.—

Chif. i. 354. 2, repr. in Lob. obs. 269. 2, repr. in ic. i. 504. 2,

Ger. em. 675. 2, and cop. in Park. 22. 4, H. ox. xi. 8. row 1.

1, and Pet. 32. 9.—Riv. mon. 43. 1, Clinopodium.—Trag. 36.

2, cop. in Lonic. i, 118. 1.—Matth. 814, cop. in Lonic. ii. 21. 1.

Leaves heart-egg-shaped, scolloped, on leaf-stalks. Bloss. reddish purple; tube long; upper lip nicked, the lower scolloped. RELH.

—Whole plant hairy. Heads exceedingly hairy. Empalement with 13 scores. Mr. HOLLEF.—Stems square, hairy, reddish. Leaves

egg-shaped, ferrated, sometimes nearly entire, on short leaf-stalks. Flowers many on one branched fruit-stalk. Floral-leaves hairy.

Empal. tube hairy. Bloss. bright purplish red. Mr. WOODWARD.

Clinopodium Matthioli. CLUS. hist. (ST.)

Wild Basil.—Meadows, hedges, and dry pastures, especially in a calcareous soil.

P. July.

Goats and Sheep eat it. Horses refuse it.

* *Ocimum* is the true Basil. ST.

784. ORIG'ANUM. Marjoram.

EMPAL. Fence spiked; tiled with *Floral-leaves*; egg-shaped; coloured. *Cup* unequal; various.

BLOSS. 1 *petal*; gaping. *Tube* cylindrical; compressed. *Upper Lip* upright; flat; blunt; notched at the end. *Lower Lip* with 3 segments; nearly equal.

CHIVES. *Threads* 4; 2 long and 2 short; thread-shaped; as long as the blossom. *Tips* simple.

POINT. *Seed-bud* with 4 clefts. *Shaft* thread-shaped; leaning towards the upper lip of the blofs. *Summits* slightly cloven.

S. VESS. none. The *Cup* closing a little contains the feeds.

SEEDS 4; egg-shaped.

ESS. CHAR. *The empal. collected into a spiked 4-cornered Cone.*

OBS. The fence to the cups constitutes its essential character. The *cup*, in some species, is nearly equal; with 5 teeth: In others, it consists of 2 lips; the upper lip large and entire; the lower lip hardly perceptible: in others again, the cup is formed of 2 leaves.

ORIG'ANUM *vulgarre*. Spikes roundish, panicked, *wild* clustered. *Floral-leaves* egg-shaped longer than the empalements.—

Ludw. 90.—*Riv. mon.* 60. 1, *Origanum*.—*Ger.* 541. 4.—*Matth.* 701, *imitated in* *Dod.* 285. 2, *repr. in* *Lob. obs.* 263. 1; *ic.* i. 492. 2; *Ger. em.* 666. 4, *and cop. in* *Park.* 12. 6, *abridged in* *H. ox.* xi. 3. 12, *and* *Pet.* 34. 8.—*Blackw.* 280.—*Fuchsf.* 552, *cop. in* *J. R.* iii. 236, *abridged in* *Trag.* 36. 1, *and* *Lonic.* i. 118. 2.—*Fl. dan.* 638, *ill done.*

Stem 1½ foot high, hairy, purplish, 4-cornered. *Leaves* egg-shaped, hairy. *Flowers* purple, woolly at the mouth. *Floral-leaves* coloured. RELH.—*Stem* a little woolly, often coloured. *Leaves* egg-heart-shaped, very slightly serrated, opposite, dotted, more or less hairy. *Floral-leaves* spear-shaped, coloured. *Empalement* nearly equal; mouth closed with bristly hairs, which at first lie parallel to the sides, but when the blossom falls off they stand out closing up the mouth; without beset with short fine hairs, and minute white shining globules. *Blofs.* very pale red, hairy; the middle segment rather longer than the rest. *Chives* equal, longer than the blossom, but sometimes very short, fixed to the top of the blossom. *Shaft* longer than the blossom. *Leaves* oval, pointed, on short leaf-stalks, dark green. *Blossoms* purple. WITH.

Wild

Wild or Field Marjorum.

Thickets and hedges, in a calcareous soil. [Catton, near Norwich. Mr. WOODWARD.] P. July.

The whole plant is a warm aromatic. The dried leaves, used instead of tea, are exceedingly grateful; the essential oil of this plant is so acrid, that it may be considered as a caustic, and is much used with that intention by farriers. A little cotton wool moistened with it, and put into the hollow of an aching tooth, frequently relieves the pain. The country people use the tops to dye purple.—Goats and Sheep eat it. Horses are not fond of it. Cows refuse it.

pot **ORIG'ANUM** *oni'tes*.* Spikes oblong, incorporated, hairy. Leaves heart-shaped, cottony.—

Lob. obs. 264. 2, *repr. in ic.* i. 494. 2, *Ger. em.* 664. 2, and *cop. in Park.* 12. 4, and *H. ox.* xi. 3. 9.

Habit of the *O. marjorana*, but woody. Stems with long open hairs. Leaves small, nearly fitting, pointed, but rarely serrated, cottony on both sides, with rudiments of branches from their bottoms. Spikes clustered as in the *O. marjorana*, but oblong, woolly, 3 on each fruit-stalk, the middlemost fitting. Flowers white. LINN.

Winter or Pot Marjoram.

Dry meadows. On the left of the road from Braintree to Raine beyond the bridge. DALE in R. syn. P. Aug.

* Mr. Hudson does not inform us whether he has ever found it growing wild. In the figures above referred to, and which are cited in the Fl. angl. the leaves are *egg, not heart-shaped*. They appear to me to be no other than *O. vulgare*, or at least that variety, if it be one, which is cultivated in our gardens, and which is clearly the plant intended by Ger. and Park. who, though they call it *anglica*, speak of it only as a cultivated plant. Linnæus too is doubtful whether his plant be the *O. Onites* of C. B. so that our claim to this species seems rather less than dubious. ST.

785. T H Y' M U S. Thyme.

EMPAL. *Cup* 1 leaf; tubular; cloven half way down into 2 lips; permanent. *Mouth* closed by soft hairs. *Upper Lip* broad; flat; upright; with 3 teeth. *Lower Lip* like 2 bristles; of equal length.

BLOSS. 1 *petal*; gaping. *Tube* as long as the cup. *Mouth* small. *Upper Lip* short; flat; upright; notched at the end; blunt. *Lower Lip* long; expanding; broad; with 3 segments; blunt. *Middle Segment* broadest.

CHIVES. *Threads* 4; 2 long and 2 short; crooked. *Tips* small.

POINT. *Seed-bud* with 4 divisions. *Shaft* thread-shaped. *Summit* cloven; sharp.

S. VESS. none. The *Cup* narrow at the neck incloses the seeds.

SEEDS 4; small; roundish.

ESS. CHAR. *Empalement* with 2 lips; mouth closed by soft hairs.

T H Y' M U S *serpyllum*. Flowers in heads. Stems common creeping. Leaves flat, blunt, fringed at the base.—

a. Ludw. 121.—Vaill. 32. 9 and 7.—Curt. ii. 13.—Clus. i. 359. 1, repr. in Dod. 277. 1, Lob. obs. 230. 2, ic. i. 423. 2, Ger. em. 570. 1, and cop. in Park. 8. 10, Pet. 31. 1, and H. ox. xi. 17. row 1. 1.—Fuchf. 251, improved in J. B. iii. 269.—Blackw. 418.—Math. 725.—Riv. mon. 42. 2, Serpyll. fl. minore.—Ger. 455. 1 and 2.—Lonic. i. 119. 1.

Empal. teeth fringed. *Chives* as long as the blossom. LINN.—*Threads*, those inserted below the upper lip shorter than the tube, those below the under lip longer than the tube. Mr. HOLLEFEAR.—*Stems* woody, nearly cylindrical. *Leaves* oblong-egg-shaped, very entire, with hollow dots on both surfaces, fringed at the base with a few fine white hairs. *Empalement* coloured, with a circle of white hairs running round the inside at the base of the segments, which, while the plant is in flower, lie flat to the sides of the empalement, but when the blossom falls off expanding close up its mouth. WITH.

Mother of Thyme. Wild Thyme.

Heaths and mountainous places.

P. July. Aug.

The whole plant is fragrant, and yields an essential oil that is very heating. An infusion of the leaves removes the head-ach occasioned by the debauch of the preceding evening. A general opinion

opinion prevails, that the flesh of Sheep, that feed upon aromatic plants, particularly upon Thyme, is much superior in flavour to common mutton; but Mr. BOWLES, the ingenious author of the account of the Sheep-walks in Spain, (*Gent. Mag.* 1764,) considers this as a vulgar error. He says, Sheep are not fond of aromatic plants; that they will carefully push aside the Thyme to get at the grafs growing beneath it; and that they never touch it, unless when walking apace, and then they will catch at any thing. The attachment of bees to this and other aromatic plants is well known.—Sheep and Goats eat it. Swine refuse it.

The *Phalæna papilionaria* lives upon it.

whiteflower'd
large flowered

β. HUDS. Blossoms white.

γ. HUDS. Blossoms large.

Vaill. 32. 8.—*Riv. mon.* 42. 3, *Serpyllum*.—*Pet.* 31. 2.

Serpylli vulgaris secundum genus. R. syn. 230.—*Serpyll. vulg. flore amplo.* *Vaill.* t. 32. f. 8.

broad-leaved

β. LINN. Larger. Leaves broad.

Ger. 456. 3.—*Lob. ic. i.* 424. 1, repr. in *Ger. em.* 573. 7, cop. in *Park.* 7. 7, and *Pet.* 31. 3.—*Ger. em.* 570. 3.

Okey Hole, Somersetshire.

Serpyllum vulgare majus. R. syn. 231.

Lemon

ε Leaves with the scent of lemon peel.

Clus. i. 359. 2, repr. in *Dod.* 277. 2, *Ger. em.* 571. 7, and cop. in *Park.* 8. 9, and *J. B.* 270. 1.—*Ger.* 458. 2.—*Pet.* 31. 4.

Is used in sauces.

smooth

ζ Leaves narrow, smooth.

Sheldr. 52.—(*Park.* 8. 9, is ε.)

Boxly Hill, by Kitt's Coffee-house.

hoary

η Differs from α in the hairiness of the leaves. RAY.

Vaill. 32. 6.—*Riv. mon.* 42. 1, *Serp. mont. hirsut.*

Gogmagog Hills, and other barren places.

shrubby

θ More shrubby. Hairy. Blossoms pale red. RAY.

Pastures on the summit of γ Wydhva, Caernarvonshire, and on Snowdon.

scentless

ι St. Hairy, small, creeping, scentless. PLUK.

Serpyll. hirsut. min. rep. inodorum. R. syn. 331.

Ireland.

Basil

THY'MUS *A'cinos*. Flowers in whorls, 1 upon each fruit-stalk. Stems upright, somewhat branched. Leaves pointed, serrated. LINN.—Stems ascending. Leaves tooth-serrated. Empal. bellying out* at the base. CURT.

* Rather hunched, (*gibbys.*) ST.

Curt. i. 11.—*Riv. mon.* 43. 2, *Acinos*.—*Clus.* i. 354. 1, repr. in *Dod.* 280, *Lob. obs.* 270. 2, *ic.* i. 506. 1, *Ger. em.* 675. 1, and cop. in *Park.* 21. 1, *H. ox.* xi. 18. row 1. 1, and *Pet.* 32. 10.—*Fuchsf.* 896, cop. in *J. B.* iii. 259, and *Lonic.* i. 116. 3.—*Fl. dan.* 814, hairs wanting.—*Trag.* 37.—*Ger.* 548. 1.—*Matth.* 815.

Stems ascending. *Leaves* in distant pairs. Mr. WOODWARD.—*Plant* hairy. *Empalement* scored, at the fore part at the base inflated, about the middle contracted, and then dilating into the lower lip. Mr. HOLLEFEAR.—The middle segment of the lower lip of the blossom notched at the end. *Blossoms* purple.

Wild Basil.

Dry hills, and on chalk and gravel. [Not unfrequent in Norf. Mr. WOODWARD.—and Surry. ST.] A. July. Aug.
Horses eat it. Cows are not fond of it. Sheep and Goats refuse it.

786. MELIS'SA. Baum.

EMPAL. *Cup* 1 leaf; somewhat bell-shaped; dry and skinny; a little expanding; angular; scored; permanent. *Mouth* with 2 lips. *Upper Lip* with 3 teeth; reflected; expanding; flat. *Lower Lip* short; rather pointed; divided.

BLOSS. 1 *petal*; gaping. *Tube* cylindrical. *Mouth* open. *Upper Lip* short; upright; vaulted; roundish; notched at the end. *Lower Lip* with 3 segments; the middle one largest; inversely heart-shaped.

CHIVES. *Threads* 4; awl-shaped; 2 as long as the blos. the other 2 but half as long. *Tips* small; standing together in pairs.

POINT. *Seed-bud* with 4 clefts. *Shaft* thread-shaped; as long as the blossom; leaning along with the chives under the upper lip of the blossom. *Summits* slender; cloven; reflected.

S. VESS. none. The *Cup* unchanged, but enlarging contains the seeds.

SEEDS 4; egg-shaped.

ESS. CHAR. *Empalement* dry; flattish above; upper lip nearly flat-topped.* *Bloss.* upper lip somewhat vaulted; cloven; middle lobe of the lower lip heart-shaped.

* "*Labio superiore subfastigiato.*" Our author means, I apprehend, that the teeth of the upper lip rise nearly to an equal height. ST.

Calamint MELIS'SA *Calamin'tha*. Fruit-stalks from the bosom of the leaves, forked, as long as the leaves.—

Ludw. 33.—*Riv. mon.* 46. 2, *Calamentha*.—*Dod.* 98. 1, *repr. in Lob. obs.* 274. 2, *ic. i.* 513. 1, *Ger. em.* 687. 3, and *cop. in Park.* 36, *H. ox. xi.* 21. row 2. 3, and *Pet.* 34. 1.—*Blackw.* 166.—*Matth.* 716.—*Ger.* 552. 1.

Stem upright. LINN.—*Leaves* on leaf-stalks, egg-shaped, taper-pointed, ferrated. *Bunches* sometimes longer than the leaves. *Empal.* mouth woolly. RELHAN.—*Leaves* much larger than those of *M. Nepeta*. *Fruit-stalks* generally shorter than the leaves, sometimes as long as, and near the ends of the branches longer. *Flowers* twice as large as those of *M. Nepeta*. MR. WOODWARD.—*Stems* 4-cornered, woolly. *Leaves* in opposite pairs on leaf-stalks, hairy, and dotted, very slightly ferrated. *Fruit-stalks* 3-forked, the lateral arms forked. *Empalement* with 13 ribs, short hair, and shining globules; segments fringed, and the mouth closed with long hairs; teeth pointing upwards after the blossom falls off, the 3 upper equal, the 2 lower longer, and more pointed. *Bloss.* tube beset within with white club-shaped hairs; *upper lip* lilac-coloured within; *lower lip* pale within, but marked with 3 round dots, and a few short streaks of a deeper hue. *Tips* double, purple. *Dust* whitish. *Seed-buds* 4, placed on a glandular receptacle. *Summit*, 1 segment greatly longer than the other, and hooked. WITH.

Calamint.—Sides of roads and corn fields.

P. Aug.

field MELIS'SA *Nep'eta*. Fruit-stalks from the bosom of the leaves, forked, longer than the leaves. *Stem* ascending, hairy.—

Riv. mon. 47, *Calamentha fol. incano*.—*Gies.* 1. 14.—*Blackw.* 167.—*Matth.* 617, *cop. in Dod.* 98. 2, which *repr. in Lob. obs.* 275. 1, *ic. i.* 513. 2, *Ger. em.* 687. 3, and a branch *cop. in Park.* 37. 4. a.

Whole plant hairy. *Stems* hardish. *Leaves* somewhat heart-shaped, smooth on the upper surface. *Floral-leaves* awl-shaped. *Blossoms* bluish; *palate* white with a blue border. LINN.—*Leaves* small, whitish, the upper egg-shaped. *Fruit-stalks* much longer than the leaves; their branches again forked, the last generally bearing 3 flowers, the 2 outer of which have a pair of floral-leaves, the middle one naked. *Floral-leaves* very small, 1 pair at each division of the fruit-stalks. *Flowers* very small. MR. WOODWARD.—*Stem* 4-cornered, upright, woolly. *Leaves* in opposite pairs, heart-shaped, with pellucid dots. *Fruit-stalks*, the forks sub-divided into 3 to 6 fruit-stalks, each supporting a flower. *Empalement* coloured, ribbed, beset on the outside with short hairs and shining glands,

glands, smooth within, but closed at the mouth with long hairs; the 3 upper teeth equal, the 2 lower longer, equal, and more pointed. *Bloss.* pale bluish purple; *lower lip* beset at the base with white club-shaped bristles; lateral segments egg-shaped, the middle one kidney-shaped, and marked on the inside with reddish purple spots. *Tips* purple. *Dust* white. *Seed-buds* 4, egg-shaped, sitting on an orange-coloured receptacle. WITH.

Sides of roads and corn fields, and hedge banks. [Norfolk, frequent. Mr. WOODWARD.] P. Aug.

The *Cassida viridis* feeds upon it.

789. MELIT'TIS. Baum-leaf.

EMPAL. *Cup* 1 leaf; bell-shaped; cylindrical; straight. *Mouth* with 2 lips. *Upper Lip* tall; notched; sharp. *Lower Lip* shorter; cloven; sharp. *Segments* standing wide.

BLOSS. 1 *petal*; gaping. *Tube* much more slender than the cup. *Mouth* but little thicker than the tube. *Upper Lip* upright; roundish; flat. *Lower Lip* expanding; with 3 segments; blunt. *Middle segment* large; scalloped.

CHIVES. *Threads* 4; the middle ones shorter than the outer ones; awl-shaped; standing under the upper lip. *Tips* blunt; cloven; each pair forming a cross.

POINT. *Seed-bud* blunt; with 4 clefts; covered with soft hairs. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* cloven; sharp.

S. VESS. none. The *Cup* unchanged contains the seeds.

SEEDS 4.

ESS. CHAR. *Empalement* wider than the tube of the blossom. *Bloss.* upper lip flat; the lower scalloped. *Tips* cross-shaped.

MELIT'TIS *Melissophyllum*.—

basilard

Mill. ill.—*Jacq. fl.* 26.—*Riv. mon.* 21, *Melissophyllum*.—*Lob. obs.* 277. 2, repr. in *ic. i.* 515. 1, *Ger. em.* 690. 3. f. 1, and *cop. in Park.* 41. 4.—*Fuchs.* 498, *cop. in J. B.* iii. 233. 2, and *Trag.* 12.—*Chis.* ii. 37. 2, repr. in *Ger. em.* 690. 3. f. 2.—*Cam. hort.* 30.—*J. B. ib.* 1.—(*Mill.* 158, is *Lamium Orvala*.)

Empalement upright, with 3 clefts; the upper segment often marked with a small tooth on each side. *Bloss.* white; tube twice as long as the empalement; border with 4 divisions, expanding, consisting

consisting of an *upper lip* roundish, upright, entire; and a *lower lip* with 3 clefts, the middlemost larger, flat, entire, purple. *Tips* yellow, shorter than the blossom. LINN.—*Stem* somewhat square, scored, hairy. *Leaves* oval-spear-shaped, serrated, hairy, on leaf-stalks. *Fruit-stalks* long, hairy. *Empalement* hairy below, nearly smooth above, large, veined and tipped with purple. MR. WOODWARD.—Whole *plant* hairy. *Leaves* opposite, egg-spear-shaped, wrinkled, serrated, the teeth terminating in purplish glands. *Fruit-stalks* from the bosom of the leaves, 2 or 3 together, not expanding altogether. *Empal.* border on the upper side turned outwards like a spout, with a spear-shaped segment on each side, the lower lip cut off and finely serrated. *Blossoms* white, stained with purple, except the middle segment of the lower lip, which is a full purple edged with white. *Tips* of the shorter chives lying close to each other in form of a cross. WITH.—*Flowers* on single fruit-stalks, 6 in each whorl *Bloss.* red, with purple spots, or white with red spots.

Bastard Balm.

Woods and hedges. Several woods in the West of England; about Totness, Devonshire; and Haverford-west, Pembroke-sh. New Forest, Hants. P. June.

792. SCUTELLA'RIA. Skul-cap. (Hill.)

EMPAL. *Cup* 1 leaf; very short; tubular. *Rim* almost entire; covered by a scale; lying over it like a lid; which is formed by an expansion of the upper part of the cup.

BLOSS. 1 *petal*; gaping. *Tube* very short; bent backwards. *Mouth* long; compressed, *Upper Lip* concave; divided into 3 segments. *Middle segment* concave; notched at the end. *Lateral segments* flat; rather pointed; placed under the middle segment. *Lower Lip* broad; notched at the end; keeled beneath.

CHIVES. *Threads* 4; 2 long and 2 short; concealed under the upper lip. *Tips* small.

POINT. *Seed-bud* with 4 divisions. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* simple; crooked; taper.

S. VESS. none. The *Cup* 3-cornered; covered with a lid resembling a helmet; answering the purpose of a capsule; and opening at the lower margin.

SEEDS 4; roundish.

ESS. CHAR. *Empal.* mouth entire; closed after flowering; covered with a lid.

Obs. This genus unites the *Prunella* to the *Dracocephalum*, but is abundantly distinguishable from all others by its singular and beautiful empalement, which, inclosing the seeds as a seed-vessel, resembles, in its external appearance, a helmet with its crest.

SCUTELLA'RIA *galericula'ta*. Leaves heart-spear- blue shaped, scolloped. Flowers from the bosom of the leaves.

Curt. iii. 26.—*Riv. mon.* 77. 1, *Scutellaria*.—*Blackw.* 516.—*Walc.* —*Fl. dan.* 637.—*H. ox.* xi. 20. row 3. 6.—*Lob. obs.* 186. 3, repr. in *ic.* i. 344. 2.—*Dod.* 93. 2, repr. in *Ger. em.* 477. 10, and cop. in *Park.* 221, and improved in *Pet.* 34. 10.

Stem nearly smooth. *Leaves* nearly smooth, scolloped at the base, entire upwards. *Flowers* hairy on the outside. Mr. Woodw. On fruit-stalks, pendant. *Blossoms* blue, hairy on the outside. *Chives* and *pointal* white. *Tips* purple. *Branches* numerous, opposite. *Hooded Willowherb*.

Banks of rivers, and edges of ponds.

P. Aug.

When the blossom falls off, the cup closes upon the seeds; which, when ripe, being still smaller than the cup, could not pos-

sibly open its mouth, or overcome its elastic force, as the down of the seeds do in the compound flowers, and must consequently remain useless without a possibility of escaping. But nature, ever full of resources, finds a method to discharge them. The cup grows dry, and then divides into 2 distinct parts; so that the seed already detached from the receptacle, fall to the ground.

Cows, Goats, and Sheep eat it. Horses and Swine refuse it.

lesser SCUTELLA'RIA *minor*. Leaves heart-egg shaped, almost quite entire. Flowers from the bosom of the leaves.—

Curt. iv. 48.—*Ger. em.* 581. 3, *cop. in Park.* 220. 4, *H. ox.* x. 20. row 3. 8; and *Pet.* 34. 11.—*Ger.* 466. 2.

Very nearly allied to the *S. galericulata* and *hyssopifolia*. LINN.—Had Linnæus frequently seen this plant growing, he would hardly have made this remark. CURT. ST.—*Bloss.* in a single plant blue. CURT.—Very small and slender. *Leaves* egg-shaped, with 1 or 2 scollops at the base, the rest entire. MR. WOODWARD.—*Leaves* little serrated towards the base, slightly hairy. *Leaf-stalks* very short. *Flowers* in pairs, all pointing one way. *Fruit-stalks* short. *Empalement* with 2 lips, but very slightly cloven; *upper lip* with a flat ridge running across it, which, when the blossom falls, enlarges and pressing down the upper lip, closes the mouth of the empale-ment, giving it the appearance of a helmet; middle segment rather shorter, nearly flat; *lower lip* broad, rather reflected, but neither notched at the end nor keeled beneath. *Bloss.* reddish purple, the lower lip mottled within with deeper coloured spots. *Ti-* white. *Summit* slightly cloven. *Seeds* rough with small tubercles.

WITH.

Boggy places and sides of lakes.

P. July. Aug.

793. PRUNEL'LA. Selfheal.

EMPAL. *Cup* 1 leaf; with 2 lips; mouth short; permanent. *Upper Lip* flat; broad; lopped; with 3 very small teeth. *Lower Lip* upright; narrow; sharp; with a shallow cleft.

BLOSS. 1 *petal*; gaping. *Tube* short; cylindrical. *Mouth* oblong. *Upper Lip* concave; entire; nodding. *Lower Lip* reflected; blunt; with 3 segments; the middle segment broadest; notched at the end: serrated.

CHIVES. *Threads* 4; 2 a little longer than the other 2; awl-shaped; forked at the end. *Tips* simple; fixed to the threads beneath the top; and only to one of the divisions of the fork.

POINT. *Seed-bud* with 4 divisions. *Shaft* thread-shaped; leaning along with the chives towards the upper lip. *Summit* notched at the end.

S. VESS. none. The *Cup* closes and contains the seeds.

SEEDS 4; somewhat egg-shaped.

ESS. CHAR. *Threads forked*; one of the arms supporting the tip. *Summit* cloven.

OBS. The threads have a tooth at the end as in *Crambe*, and not at the base as in *Alyssum* and *Ocimum*.

PRUNEL'LA *vulgaris*. All the leaves egg-oblong, common serrated, on leaf-stalks.—

Curt. iv. 38.—Ludw. 19.—Blackw. 24.—Mill. 69. 2.—Dod. 136. 1, repr. in Lob. obs. 251. 3, ic. i. 474. 2, Ger. em. 632. 1, and cop. in Park. 1680. 1, H. ox. xi. 5. row 1. 1. f. 4, and Pet. 32. 11.—Walc.—Riv. mon. 29. 1, Brunella.—Ger. 507. 1.—Fuchf. 621, cop. in J. B. iii. 428. 2, and Trag. 310.—Matth. 963.

In open sunny situations it grows trailing, and not above a finger's length, but in woods it is upright, and near a foot high.

LINN.—*Floral-leaves* heart-shaped, membranaceous, whitish, with parallel greenish scores. BERGIUS.—*Empal.* lips coloured; the lower cloven, the segments taper-pointed. RELHAN.—*Flower-leaves* heart-spear-shaped. *Empalement* coloured above; lower lip with 2 or 3 shallow clefts. Mr. HOLLEFEAR.—Whole plant thinly set with hairs. *Leaves* opposite. *Floral-leaves* ribbed, edged with purple and fringed. *Empal.* upper lip with 7 ribs; lower lip with 2 spear-shaped segments, each marked with 3 lines, and serrated

with short stiff hairs. *Bloss.* upper lip slightly notched at the end; lower lip, middle segment jagged. *Summit*, segments rolled back. *Floral-leaves* heart-shaped. *Bloss.* blue, purplish, or white. WITH. *Selfheal*.—Meadows and pastures. P. Aug.
Cows, Goats, and Sheep eat it. Horses are not fond of it.

Order II.

ANGIOSPERMIA; SEEDS COVERED.

797. BART'SIA. Painted-cup.

EMPAL. *Cup* 1 leaf; tubular; permanent. *Mouth* blunt; cloven. *Segments* notched at the end; points coloured.

BLOSS. 1 *petal*; gaping. *Upper Lip* upright; slender; entire; long. *Lower Lip* reflected; with 3 segments; blunt; very small.

CHIVES. *Threads* 4; 2 a little shorter than the other 2; bristle-shaped; as long as the upper lip. *Tips* oblong; approaching; standing under the top of the upper lip.

POINT. *Seed-bud* egg-shaped. *Shaft* thread-shaped; longer than the chives. *Summit* blunt; nodding.

S. VESS. *Capsule* egg-shaped; compressed; taper; with 2 cells and 2 valves; partition opposite to the valves.

SEEDS numerous; angular; small.

ESS. CHAR. *Empalement* with 2 lobes; nicked; coloured.

Bloss. less coloured than the empalement; upper lip longer.

Caps. cells 2. LINN.—*Empalement* with 2 cloven lobes.

Bloss. upper lip upright; concave; nicked; longer; lower lip bent back with 3 clefts; segments blunt; nearly equal.

Caps. egg-shaped; compressed; cells and valves 2. HUDS.

Obs. This genus is a sort of connecting link between the *Rhinanthus*, *Euphrasia*, and *Pedicularis*. LINN.—If the coloured empalements were admitted as an essential generic mark, half the order must be placed in it. Mr. WOODWARD.

marsh BART'SIA visco'sa. Upper-leaves alternate, serrated. Flowers distant, lateral.—

Lightf.

Lighf. 14. at p. 321.—*Ger.* 85, *Pluk.* 27. 5, *cop. in Pet.* 36. 6.—*Barr.* 665.

Stem cylindrical, simple. *Leaves* fitting, spear-shaped, sharply ferrated, slightly hairy. *Flowers* single, from the bosom of the leaves, on short fruit-stalks. *Empalement* very large, as long as the blofs. with 5 deep divisions; segments spear-shaped, clammy. *Blossoms* yellow. Mr. WOODWARD.

Marfhes in Cornwall and Devonshire; about Latham, near Ormskirk, Lancashire; and about Ardencaple in the vicinity of Loch-Gyle, near Loch Long, in the diftrict of Cowal, Argylefh. [Corn fields, near Plengwarry, and Cofgarne, Cornwall. Mr. WATT.] A. July. Aug.

BART'SIA *alpi'na*. Leaves oppofite, heart-shaped, mountain bluntly ferrated.—

Fl. dan. 43.—*Pluk.* 163. 5.—*Pon. in Cluf.* ii. 343.—(*J. B.* iii. 289. 2, is a different plant.)

Leaves heart-fpear-shaped. *Flowers* in a fhort terminating fpike. Mr. WOODWARD.—*Blossoms* in leafy fpiques, purple.

Banks of rivers in rough funny places. Near a rivulet near Orton, in croffing the road to Crofby, Weftmorel. RAY. HUDS. Sheep and Goats eat it.

BART'SIA *Odonti'tes*. Upper-leaves alternate, fpear- red shaped, ferrated. Flowers in bunches, pointing one way. HUDS.

Euphrasia Odontites, which fee.

If it differs from *Euphrasia officinalis* in the fegments of the lower lip of the bloffom not being entire, it agrees in the ftructure of the empalement and the hairs of the tips, in both which circumftances it differs from the *Bartfia*. ST.

798. RHINAN'THUS. Rattle.

EMPAL. *Cup* 1 leaf; roundish; bladder-shaped; compressed; with 4 teeth; permanent.

BLOSS. 1 *petal*; gaping. *Tube* somewhat cylindrical; as long as the cup. *Border* open; compressed at the base. *Upper Lip* shaped like a helmet; compressed; notched; narrow. *Lower Lip* open; flat; with 3 slight segments; blunt; the *middle segment* the broadest.

CHIVES. *Threads* 4; 2 long and 2 short; nearly as long as the upper lip which conceals them. *Tips* fixed sideways to the threads; cloven at one end; hairy.

POINT. *Seed-bud* egg-shaped; compressed. *Shaft* thread-shaped; agreeing in situation with the chives, but longer. *Summit* blunt; bent inwards.

S. VESS. *Capsule* blunt; upright; compressed; cells 2; valves 2; partition opposite to the valves; opening at the edges.

SEEDS many; compressed.

ESS. CHAR. *Empalement* bellying; clefts 4. *Caps. cells* 2; blunt; nicked.

yellow RHINAN'THUS *Crista galli*. Upper lip of the blossom compressed and shorter.—

Riv. mon. 92. 2, *Crista galli*.—*Dod.* 556. 1, repr. in *Lob. obs.* 285. 2, ic. i. 329. 2, *Ger. em.* 1071. 1, and cop. in *Park.* 713. 2, *H. ox.* xi. 23. row 2. 1, and *Pet.* 36. 2.—*Walc.*—*J. B.* iii. 436. 3.—*Ger.* 912.

Empalement equal, with 4 clefts. *Capsule* bordered at the edge. *Seeds* inclosed by a loose membrane. LINN.—*Stems* 4-cornered, smooth. *Leaves* sitting, opposite, spear-shaped, serrated, smooth. *Fruit-stalks* from the bosom of the leaves, solitary, short. *Empalement* very large, with 2 lips, lips cloven. *Bloss.* yellow; tube cylindrical, widening below; lower lip rolled in at the edge. RELH.—*Stem* upright, stiff. *Leaves* opposite, bluntly spear-shaped, sitting, with parallel ribs terminating in the serratures, smoothish above, dotted with glands and slightly hairy beneath. *Flowers* on short fruit-stalks, solitary, forming a kind of terminating spike. MR. WOODWARD.—*Stems* nearly 4-cornered, with dark purple stains. *Leaves* in pairs, opposite, sitting, spear-shaped, serrated, above dark green and rough, beneath grey with a curious network of green veins. *Bloss.* yellow; upper lip tipped with a dirty blue.

Shaft

Shaft white, but just below the summit dark blue. Summit yellowish green, slightly notched. Seed-bud surrounded at the base by a membranaceous honey-cup, and in the front a short, thick, crooked, horn-shaped gland. The seeds, when ripe, rattle in the capsules, whence its English name. WITH.

Yellow Rattle. Penny-grass. Coxcomb. Cockscumb.

Meadows and pasture.

A. June. July.

Horses, Goats, and Sheep eat it. Cows refuse it.

β. LINN.—Blossoms smaller; lower lip purple: LIGHTF.

Cornfields between Wetherby and Catall, and near Burroughs-bridge, Yorkshire, and W. Newton, Northumberland. RAY.

799. EUPHRA'SIA. Eyebright.

EMPAL. Cup 1 leaf; cylindrical; clefts 4; unequal; permanent. LINN.—Tubular; bell-shaped; angular; straight; segments taper-pointed; equal. HUDS.

BLOSS. 1 petal; gaping. Tube as long as the cup. Upper Lip concave; notched at the end. Lower Lip expanding; divided into 3 segments which are equal; blunt. LINN.—With 3 shallow clefts; segments unequal; cloven; the middlemost the largest. HUDS.

CHIVES. Threads 4; thread-shaped; leaning under the upper lip. Tips, lobes 2; the lower lobe of the lower tips pointed with a thorn. LINN.—Cloven at the base; lobes awn-taper-pointed at the base. HUDS.

POINT. Seed-bud egg-shaped. Shaft thread-shaped; agreeing in shape and situation with the chives. Summit blunt; entire. LINN.—Seed-bud oblong. Summit knobbed. HUDS.

S. VESS. Capsule egg-oblong; compressed; cells 2. LINN.—Capsule oblong; 4-cornered at the base; compressed and nicked at the top; valves, the partition placed contrarywise to the valves; opening at the edges. HUDS.

SEEDS numerous; very small; roundish. LINN.—oblong. HUDS.

ESS. CHAR. Empalement cylindrical; clefts 4. Capsule egg-oblong; cells 2. One of the lobes of the lower tips with a thorn at the base.

EUPHRA'SIA officinalis. Leaves egg-shaped, common streaked, sharply toothed.—

Sheldr. 48.—*Walc.*—*Ludw.* 135.—*Riv. mon.* 90. 1, *Euphrasia*.—*H. ox.* xi. 24. 1. b.—*Matth.* 1022, *cop. in Ger.* 537. 1, and in *Dod.* 54. 3, which repr. in *Lob. obs.* 261. 1, *ic. i.* 491. 1, *Ger. em.* 663, and *cop. in Park.* 1329. 1, and *H. ox.* xi. 24. 1. a.—*Fuchf.* 247, *cop. in Trag.* 238, and *J. B.* iii. 432. 3.—*Blackw.* 427.

The lower lobes of the lower *Tips* terminate in a thorn which bends the filament to one side. LINN.—*Blossom*, lower lip, segments nicked at the end. MR. HOLLEF.—*Stems* reddish. *Branches* in opposite pairs. *Leaves* fitting, mostly opposite. *Empalement* with 5 flat sides and 5 corners, but segments rarely 5, unequal, spear-shaped, dark purple at the ends, and with a few dark purple globular glands strewed on the outside. *Blofs.* tube rather crooked, a little hairy, and stained with yellow; *upper lip* streaked with a few purple lines, cloven into 2, segments ending in 3 teeth; *lower lip*, segments cloven at the end, with a very small tooth in the cleft, the lateral segments with 3 purple lines, the middle one with a yellow blotch. *Tips* brown, with a few white hairs on the lower part where they open. *Seed-bud* a little hairy at the top. *Summit* fringed with very minute glands round the edge. *Seed-vessel* slightly notched at the end, a little hairy towards the top, and marked with black dots. *Seeds* egg-shaped. *Blossoms* bluish white, with purple streaks. WITH.

Dry barren meadows and pastures. A. July.—Sept. [But, on Arthur's Seat, near Edinburgh, I have found it in blossom in the beginning of May, in great plenty, but with stems from $\frac{1}{2}$ to $1\frac{1}{2}$ inch high. It is, perhaps, variety β , but I have not Dillenius to consult. *Leaves* bluntly serrated. ST.]

It is a weak astringent, and was formerly in repute as a remedy for impaired vision. It will not grow but when surrounded by plants taller than itself.

Cows, Horses, Goats, and Sheep eat it. Swine refuse it.

red EUPHRA'SIA *Odontites*. Leaves strap-shaped, all serrated.—

Curt. i. 11.—*Fl. dan.* 625, a branch.—*Riv. mon.* 90. 2, *Odontites*.—*Dod.* 55, *cop. in Lob. obs.* 261. 2, *ic. i.* 496. 2, *Ger. em.* 91. 2, and *cop. in Park.* 1329. 3, *H. ox.* xi. 24. 10, and *Pet.* 36. 4.—*Ger.* 85.

Tips as those of *E. officinalis*. LINN.—*Blofs.* very different from that of the former; helmet compressed, scarcely nicked; *lower lip*, lobes 3, shorter than the helmet, equal, lopped, minutely scalloped. *Tips*, all the lobes thorny at the points, and bearded at the base. LEERS.—*Blofs.* lower lip, segments very entire. MR.

HOLLEFEAR.—

HOLLEFEAR.—*Plant* frequently red. *Stem* much branched, stiff. *Flowers* on short fruit-stalks, in pairs, or single, on one side of the stem. **Mr. WOODWARD.**—*Stem* 4-cornered, rough. *Branches* in opposite pairs. *Leaves* sitting, opposite, rough. *Flowers* pointing one way, forming long, terminating, leafy bunches. *Empal.* hairy without. *Bloss.* hairy; *upper lip* slightly notched at the end; *lower lip*, middle segment slightly indented at the end. *Threads* flattened. The lobes of all the *Tips* ending at the base in short taper points, and between the lobes are a number of white club-shaped substances. *Seed-bud* compressed, hairy, surrounded and sheathed at the base by a skinny membrane. *Shaft* most hairy towards the bottom. *Summit* knobbed. *Leaves* sometimes reddish. *Blossoms* dusky red, or purple. **WITH.**

Corn fields and pastures.

A. July.—Sept.

Cows, Horses, Sheep, and Goats eat it.

800. MELAMPY'RUM. Cowgrafs.*

EMPAL. *Cup* 1 leaf; tubular; with 4 shallow clefts. *Segments* slender; permanent.

BLOSS. 1 *petal*; gaping. *Tube* oblong; bent back. *Border* compressed. *Upper Lip* helmet-shaped; compressed; notched at the end; lateral margins bent back. *Lower Lip* flat; upright; as long as the upper; with 3 shallow segments; blunt; marked with 2 projections in the middle.

CHIVES. *Threads* 4; 2 long and 2 short; awl-shaped; crooked; concealed under the upper lip. *Tips* oblong.

POINT. *Seed-bud* tapering. *Shaft* simple; agreeing in length and situation with the chives. *Summit* blunt.

S. VESS. *Capsule* oblong; oblique; taper; compressed; the upper edge convex; the lower edge straight; *cells* 2; *valves* 2; *partition* placed in a contrary direction to the valves; opening at the upper seam.

SEEDS 2; egg-shaped; hunched; enlarged at the base.

ESS. CHAR. *Empal.* clefts 4. *Bloss.* upper lip compressed; plaited back at the edge. *Caps.* cells 2; oblique; opening on one side. *Seeds* 2; hunched.

* *Cow-wheat* is inadmissible as a generic name. ST.

crested MELAMPY'RUM *cristatum*. Spikes quadrangular. Floral-leaves heart-shaped, compact, finely toothed, tiled.—

Riv. mon. 81. 2, *M. cristatum*.—*Pluk.* 99. 2.—*J. B.* iii. 440. 2, *cop. in H. ox.* xi. 23. 2.

Floral-leaves, the upper coloured; the lower spear-shaped. *Bloss.* helmet purplish, or white, with a yellow edge. *RELH.*—Whole plant nearly smooth, very much branched. *Stems* in the autumn $1\frac{1}{2}$ or 2 feet high. *Branches* opposite, numerous, diverging, so that where numbers grow together they are so entangled that it is almost impossible to extricate them. *Leaves* opposite, sitting, strap-shaped but taper-pointed, those below the branches bent down, on the branches parallel. *Spikes* terminating the stem and branches. *Floral-leaves* purplish, large, the middle tooth lengthened out into a long awl-shaped point bent down, very long at the bottom of the spike, shorter upwards, but all more or less so; sides doubled together, closely pressed together at the edges, forming a square head with hollow sides, having the horns at the angles. *Blossoms* reddish; I have never observed them yellow, though I have seen thousands of them. *MR. WOODWARD.*

Woods of Cambridgeshire and Bedfordshire, plentifully; and among corn at Walton-field, near Wakefield. [*Ripton Wood*, Huntingdonshire. *MR. WOODWARD.*] *A. June. July.*

Cows, Goats, and Sheep eat it.

purple MELAMPY'RUM *arvense*. Spikes conical, loose, Floral-leaves with bristle-shaped teeth, coloured.—

Riv. mon. 80, *M. arvense*.—*Clus.* ii. 45. 1, *repr. in Ger. em.* 90. 3, and *cop. in J. B.* iii. 439. 2, and *H. ox.* xi. 23. row 1. 1.—*Dod.* 541. 2, *repr. in Lob. obs.* 23. 1; *ic.* i. 37, *Trit. vacc.* *Ger. em.* 90. 1, and *cop. in Park.* 1327. 4.—*Trag.* 663, *cop. in* 256. 1.

Stem upright, slightly hairy, branched. *Leaves* opposite, spear-shaped, lengthened out into a very long point, nearly sitting, slightly downy. *Flowers* in an oval head. *Floral-leaves* long, spear-shaped, wing-cleft, with teeth at the base, entire upwards. *MR. WOODWARD.*—*Bloss.* yellow and dusky purple.

Corn fields. Near Lycham, Norfolk; Horsley Bath, near Beeston Castle, Chesh. Between Norwich and Cossey. [*Cossey*, near Norwich. *MR. CROWE.*—*Bixley*, near Norwich. *MR. WOODWARD.*] *A. July.*

The seeds, when ground with corn, give a bitterness and greyness cast to the bread, but do not make it unwholesome.

Cows and Goats eat it. Sheep refuse it.

MELAM-

MELAMPY'RUM *pratense*. Flowers pointing *meadow*
one way, lateral. Leaves in distant pairs. Blossoms
closed. LINN.—Lower Lip straight.* ST.

Valc, *M. sylvaticum*.—Ger. 84. 1 and 2, flowers and general habit well
expressed, but all the leaves deeply serrated.—Clus. ii. 44. 2, repr.
in Lob. obs. 22. 2, ic. i. 36. 2, Ger. em. 91. 1, and cop. in
Park. 1326. 1, and ill cop. in H. ox. xi. 23. 3, with the lower
leaves made deeply serrated. In fruit.

Differs from *M. sylvaticum* as follows: Stem more upright.
Leaves more upright, and approaching. Bloss. white, yellowish
towards the lips; the mouth, or opening between the lips shut.
LINN.—Stem weak. Leaves, the lowermost very entire, those
about the middle of the stem with several large teeth at the base,
the flower-leaves halberd-shaped with 3 clefts, the angles at the
base bent back. Blossoms white; tube long, slender, wrinkled,
widening forwards; mouth like that of a fish; lips approaching;
helmet yellow, palish at the edges; lower lip with 3 very short
teeth, and 2 deep yellow eminencies on the upper surface. Tips
glued together. HALL. RELHAN. MR. WOODW.—Root hardish,
whitish, fibrous. Stem upright or decumbent, upright towards the
point, imperfectly 4-cornered, slightly downy, reddish green.
Branches opposite. Leaves strap-spear-shaped, bluntish, very en-
tire, of a pleasant green above, slightly downy, with a net-work
of veins underneath, the larger more than 2 inches long, 3 lines
broad, purplish at the base; the flower-leaves smaller, and a little
bent back, with from 2 to 4 small-pointed teeth. Flowers solitary,
from the bosom of the leaves, on very short fruit-stalks, 2 at each
joint, nearly 8 lines long, and 2 broad. Empalement greenish pur-
ple, smooth, teeth spear-shaped taper-pointed, the upper some-
what bent back, and not so deeply divided. Blossoms full yellow;
tube compressed, triangular, whitish and smooth at the base; hel-
met blunt, slightly cloven at the point, somewhat bent back at the
edge, downy within; lower lip blunt, serrated with 3 blunt teeth,
with 2 small smooth prominencies at the mouth. Tips green, and
yellow, approaching above, woolly at the base and edge. Seed-bud
egg-shaped, compressed, smooth, within the empalement. Honey-
cup roundish, yellowish, at the base of the seed-bud. Shaft whitish,
smooth, bent inward above, just projecting from the fissure of the
helmet. Summit blunt, whitish. POLLICH. MR. WOODWARD.—
Whole plant frequently brownish, beginning to flower early and
continuing to flower all the summer, growing more and more
branched,

* Labio inferiore recto. ST.

branched, in the manner of *M. cristatum*, and in the latter part of the year extremely branched. *Branches* weak. *Leaves* on very short leaf-stalks, stiffish, from the bosom of the lower ones an egg-shaped gland, possibly an abortive flower, those towards the base of the branches strap-spear-shaped, the upper spear-shaped taper-pointed, dark blackish green, with sometimes a tinge of purple. Only the *floral-leaves* toothed, so that early in the spring very few will be visible, but later they are very numerous, the branches extending in length and continuing to flower till the spike is very long; the *lower* halberd-shaped, with only 2 or 3 teeth at the base; the *upper* nearly with winged clefts at the base, with long awl-shaped reflected teeth, and ending in an acute spear-shaped point. *Empalement* often spotted with purple. *Bloss.* tube somewhat furrowed, straight, white at the base, forwards faintly tinged with yellow; *lips* closely approaching, hairy within; *upper lip* slightly cloven; the *lower* with 3 shallow clefts. *Tips*, the back pair firmly adhering together. Mr. WOODWARD.—*Leaves* spear-shaped, greatly tapering towards the point, all serrated, but the serratures extremely fine, and the edges of the leaves being rather turned back, they are not very readily seen. *Stem* cylindrical towards the bottom, 4-cornered upwards. *Empalement* purplish without; *segments* with minute stiff bristles along the edge; the 2 *upper* longer. *Bloss.* of a full yellow, very much compressed; the notch in the upper lip but barely perceptible; *lower lip* with 2 orange-coloured rising plaits; *tube* straw-coloured. *Threads* 4, supporting what appears a single tip. *Tip* egg-shaped, compressed, hairy at the edges, and opening at the front edge, divisible into 4 portions, but as readily breaking in any other direction; after flowering separating into 2 or 4 parts. *Shaft* corresponding to the bend of the upper lip of the blossom, rising over the tip, and presenting its *summit* to the opening, whence the dust escapes. *Seed-ves.* a yellow glandular substance at the base on the fore part, doubled down, and so brittle as not to admit being straightened. WITH.

Dry meadows, LINN.—and pastures and thickets. HUDS.—Dry mountainous pastures and woods, not uncommon, LIGHTF.—and roots of old oaks. RAY. [ST.—Frequent in woods and hedges in a clayey soil in Norfolk and Suffolk. Mr. WOODWARD.]

A. July. Aug.

Where this plant abounds, the butter is yellow, and uncommonly good. Swine are very fond of the seeds.

Sheep and Goats eat it. Cows are very fond of it. Horses and Swine refuse it.

2. HALL. ST.—Blossom white, with 2 yellow spots on the lower lip. RAY. HALL.

Melampyrum

Melampyrum latifolium flore albo, labio inferiore duabus maculis luteis distincto. R. syn.* 286. Ray and Haller appear to consider this as a variety of *M. pratense*, in which the blossom has more white than yellow in it, and I think justly. ST.

MELAMPY'RUM *sylvaticum*. Flowers pointing yellow one way, lateral. Leaves in distant pairs. Blossoms widely gaping. LINN.—Lower Lip bent downwards. ST.†

Fl. dan. 145.—(Ger. 84. 2 and 1.—Walc.—Chuf. ii. 44. 2, repr. in Lob. obs. 22. 2, ic. i. 36. 2, Ger. em. 91. 1, and cop. in Park. 1326. 1, and ill cop. in H, ox. xi. 23. 3, appear to me to be *M. pratense*.)

Differs from *M. pratense* as follows: Stem more nodding. Leaves fully expanding. Blossoms only half as long, entirely yellow, and not with the tube white; mouth or the opening between the lips gaping and open. LINN.—Stem upright, or nodding, weak, branched, leafy. Leaves very entire, all of them undivided, very long, spear-shaped. Flowers in pairs, from the bosom of the leaves, sitting, compared to the leaves 3 times smaller than those of *M. pratense*. Bloss. lower lip with 3 deeper clefts. Fruit egg-conical, bowed inwards. HALL.

Woods and shady places. HUDS. In the way from Taymouth to Lord Brealbanc's cascade, and about Finlarig at the head of Loch-Tay. Not common. A much rarer plant than *M. pratense*. LIGHTF.

A. June.—Aug.

Cows, Sheep, and Goats eat it; and with a plentiful allowance of it soon grow fat.

† Labio inferiore deflexo. ST.

801. LATHRÆ'A. Toothwort.

EMPAL. *Cup* 1 leaf; bell-shaped; straight. *Mouth* with 4 deep clefts.

BLOSS. 1 *petal*; gaping. *Tube* longer than the cup. *Border* gaping; distended. *Upper Lip* concave; helmet-shaped; broad; with a narrow hooked top. *Lower Lip* smaller; reflected; blunt; with 3 clefts. *Honey-cup* a gland notched at the end; depressed on each side; very short; situated upon the receptacle of the flower, at one corner of the seed-bud.

CHIVES. *Threads* 4; awl-shaped; as long as the blossom; concealed under the upper lip. *Tips* blunt; depressed; approaching.

POINT. *Seed-bud* globular; compressed. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* lopped; nodding.

S. VESS. *Capsule* roundish; blunt; but furnished with a small point; with 1 cell; and 2 elastic valves; surrounded by the cup, which is large and expanding.

SEEDS few; globular.

ESS. CHAR. *Empalment* with 4 clefts. *A depressed gland at the base of the future of the seed-bud*, *Caps. cell* 1.

Obs. Approaches near to *Orobanche* in its honey-cup gland.

great LATHRÆ'A *Squamaria*. Stem undivided. Blosf. pendant; lower lip with 3 clefts.—

Fl. dan. 136.—*Riv.* 89. 2, *Squamaria*.—*Barr.* 80.—*H. ox.* xii. 16. 14.—*Matth.* 964, *cop. in Ger.* 1387. 1.—*J. B.* iii. 783. 2.—*Blackw.* 430.—*Dod.* 553. 1.—*Park.* 1363. 4.—*Clus.* ii. 120. 1, *repr. in Ger.* 1585. 1, and *cop. in H. ox.* xii. 16. 11.

Root beaded. *Root-leaves* none. *Stem-leaves* membranaceous, coloured. *Branches* none. *Blosf.* lower lip white. LINN.—*Stem* naked, except sometimes 1 or 2 oval scales. *Flowers* in a spike, from one side of the stem, in a double row. *Floral-leaves* roundish-oval, large, reddish, 1 at the base of each fruit-stalk, forming a double line opposite to the flowers. *Empalment* bellying, segments equal, bluntish. *Blosf.* upper lip rather short, lopped. MR. WOODWARD.—*Blos.* pale purple except the lower lip.

Great Toothwort or *Lungwort*.

Woods, shady lanes, and at the bottom of mountains, but rather rare. Maidstone Kent, Harefield, thickets below Conscick-scar,

scar, near Kendal. [Informed that it is found in woods in Derbyshire. Mr. WOODWARD.] P. April. May.

Dentaria major Matthioli. Ger. em. 1585.—*Orobancha radice dentata*, five *Dentaria Matthioli major.* Park. 1363. ST.

Goats, Sheep, and Swine eat it. Cows and Horses refuse it.

Grows only in shady places which the sun's rays can scarcely penetrate, it being almost destitute of leaves, and such plants alone can live without the solar light. LINN.

804. PEDICULA'RIS. Loufewort.

EMPAL. Cup 1 leaf; roundish; distended. Mouth with 5 clefts; equal; permanent.

BLOSS. 1 petal; gaping. Tube oblong; hunched. Upper Lip helmet-shaped; upright; compressed; narrow; notched. Lower Lip expanding; flat; with 3 shallow segments; blunt. Middle Segment the narrowest.

CHIVES. Threads 4; 2 long and 2 short, nearly as long as the upper lip, under which they lie concealed. Tips fixed sideways to the threads; roundish; compressed.

POINT. Seed-bud roundish. Shaft thread-shaped; agreeing in situation with the chives, but longer. Summit blunt; bent inwards.

S. VESS. Capsule roundish; tapering; oblique. Cells 2. Partition opposite to the valves; opening at the top.

SEEDS many; roundish; compressed; covered with a coat. Receptacles oblong; supported by foot-stalks.

ESS. CHAR. Empalement with 5 clefts. Capsule, cells 2; sharp-pointed; oblique. Seeds coated.

Obs. Capsule for the most part oblique. In some species the cup cloven at the rim into 2 parts.

PEDICULA'RIS *palustris*. Stem branched. *marsh*
Empalements crested with callous dots. Lip of the blos.
oblique. LINN.—Empalement with 2 clefts. HALL. ST.

Riv. mon. 92. 1, *Pedicularis*.—Pet. 36. 3.—Ger. 913.

Bloss. purple. LINN.—Leaves doubly winged. Branches from the bosom of the leaves, long, crowded. LYONS.—Stem about a foot high. Branches expanding. Leaves and flowers distant. Mr. WOODW.
Bloss. sometimes white. RAY. WITH. Stem angular, purplish. Leaves winged; leaflets with winged clefts. Flowers solitary, in the bosom of the leaves. Empalement with 2 lips, opening sideways; segments cloven

cloven and jagged, 2 of them bordered with leafy appendages. *Bloss. helmet* with a little tooth on each side, not notched at the end; *lower lip* fringed with fine soft hairs. WITH.

Marshes, ditches, moist meadows, and pastures. P. June. July.

This is an unwelcome guest in meadows, being very disagreeable to cattle.—Goats eat it. Horses, Sheep, and Cows refuse it. Swine are not fond of it.

common PEDICULARIS *sylvatica*. Stem branched. Empal. oblong, angular, smooth. Lip of the blossom heart-shaped. LINN.—Empal. with 5 clefts. ST.

Clus. ii. 211. 1, repr. in *Dod.* 556. 1, *Lob. obs.* 431. 3, *ic.* i. 748. 2, *Ger. em.* 1071. 2, and *cop.* in *Park.* 713. 1, and *abr.* in *H. ox.* xi. 23. 13.—*Fl. dan.* 225.—*Pet.* 36. 4.—*Trag.* 250, *cop.* in *Lonic.* i. 148. 2.

Bloss. purple, LINN.—and sometimes white. CLUS. REICH.—*Empal.* 4 of the segments crested, the 5th smaller, HALL. RELH.—often plain. RELH.—*Stem* very short. *Branches* from the root, long, spreading close to the ground. *Leaves* and *flowers* crowded. MR. WOODWARD.—*Stems* trailing. *Floral-leaves* deeply divided; segments toothed. *Empalement* angular, green within, purplish without, nearly half as long as the blossom, one of the clefts much deeper, segments toothed, that opposite to the deepest cleft the narrowest. *Bloss.* much slenderer than the empalement; *tube* compressed; *upper lip* with a little tooth on each side; *lower lip* with 3 divisions, the middle segment a little smaller than the rest. *Threads*, the 2 taller hairy towards the top. *Tips* oblong, cloven at the base, with 2 cells. *Shaft* permanent. *Capsule* nearly egg-shaped, pointed and compressed at the top. WITH.

Wet pastures and heaths.

P. June. July.

2. Blossoms white. TAB. REICH. MR. WOODWARD. WITH.

[Near Redruth, Cornwall, towards the sea. MR. WATT.—Near Berkhamstead. MR. WOODWARD.]

The expressed juice, or a decoction of this plant, has been used with advantage as an injection for sinuous ulcers. If the healthiest flock of sheep be fed with it, they become scabby and scurfy in a short time; the wool gets loose, and they will be over-run with vermin.—Cows and Swine refuse it.

808. ANTIRRHI'NUM. Snapdragon.*

EMPAL. *Cup* 5 divisions; permanent. *Segments* oblong; permanent; the 2 *lower* more expanding.

BLOSS. 1 *petal*; gaping. *Tube* oblong; hunched. *Border* with 2 lips. *Upper Lip* cloven; reflected sideways. *Lower Lip* with 3 segments; blunt. *Palate* convex; mouth closed by a projection of the lower lip, which is channelled on the under side. *Honey-cup* extending backwards from the base of the blossom.

CHIVES. *Threads* 4; 2 short and 2 long; nearly as long as the blossom, and inclosed by the upper lip. *Tips* approaching.

POINT. *Seed-bud* roundish. *Shaft* simple; agreeing in length and situation with the chives. *Summit* blunt.

S. VESS. *Capsule* roundish; blunt; cells 2. Figure and manner of opening different in different species.

SEEDS many. *Receptacles* kidney-shaped; solitary; fixed to the partition.

ESS. CHAR. *Empal. leaves* 5. *The base of the blossom* projecting downwards, containing a honey-like liquor. *Caps. cells* 2.

OBS. The *honey-cup* and the *seed-vessel* differ greatly in the different species. In some, the former is long and awl-shaped, and the latter opens equally. In others, the *honey-cup* is blunt, scarcely protuberating; the capsule unequal at the base, opening at the top obliquely; and, in others again, still different.

* *Leaves* angular.

ANTIRRHI'NUM *Cymbala'ria*. *Leaves* heart-ivy-leaved shaped, with 5 lobes, alternate. *Stems* trailing. LINN.
—*Leaves* sometimes opposite. LYONS.

Curt. i. 10.—*Riv. mon.* 86. 2, *Cymbalaria*.—*J. B.* iii. 685.—

Matth. 1184, *cop. in Lob. obs.* 337. 2, which repr. in *ic.* i. 615.

1, *Ger. em.* 529. 6.—*Park.* 682. 1.—*H. ox.* v. 14. 30.—*Lon.* i. 61. 2.

Seeds wrinkled like the kernels of the walnut. *Bloss.* sometimes white. Was it not produced by the dust of *Campanula hederæfolia*, fertilising the seed-bud of *Antirrhinum Elatine*? LINN.—Whole plant

* *Toad-flax* is contrary to the Linnæan rules for the construction of generic names. ST.

smooth and shining. *Leaves*, the smallest with only 3 lobes; lobes of the lower blunt, of the upper pointed. *Flowers* on long fruit-stalks bending at the top. *Bloss.* spur as long as the empalement. Mr. WOODWARD.—*Stems* thread-shaped. *Leaves*, segments ending in a short blunt point. *Leaf-stalks* very long, bending like tendrils. *Empal.* segments equal. *Bloss.* pale purple; palate yellow, shaggy with orange-coloured hairs. *Chives* white. *Capsule* reddish. *Honey-cup* slender, crooked. WITH.

Old walls. About London, frequent, [particularly adjoining to the Thames. Walls of Burleigh Castle, near Stamford. Mr. WOODWARD.] P. June.—Oct.

Its trailing branches variously interwoven often cover old moist walls with a thick tapestry, and when in blossom make a beautiful appearance. Mr. WOODWARD.

2. *Leaves* woolly.

sharp-pointed ANTIRRHI'NUM *Elatine*. *Leaves* halberd-shaped, alternate. *Stems* trailing.—

Curt. i. 7.—*Fl. dan.* 426.—*Sheldr.* 60.—*Park.* 553. 2, *cop. in* J. B. iii. 372. 2.—*Ger.* 501. 2.—*Matth.* 1012.—*Blackw.* 170.—*Dod.* 42. 2, *repr. in* Lob. ic. i. 470. 2, *Ger. em.* 625. 2, and *cop. in* H. ox. v. 14. 28.—(*Riv. mon.* 86. 1, *Elatine*, is *A. spurium*.)

Stem flaccid. *Honey-cup* awl-shaped. *Capsule* in opening deposits a lamella on each side. LINN.—*Flowers* sometimes regular, with 5 clefts, and spurs 3, 4, or 5, as in the *Peloria*. HUDS.—*Stems* very weak, with very long expanding hairs. *Lower-leaves* opposite. *Flowers* single. *Fruit-stalks* thread-shaped, from the bosom of the leaves, whilst in flower expanding, afterwards declining. *Empal.* leaves much pointed. *Bloss.* spur as long as the body of the bloss. Mr. WOODWARD.—*Leaves*, the lower sometimes egg-shaped, and toothed, as in *Ger. fig.*—*Fruit-stalks*, the lower sometimes shorter than the leaves. SR.

Sharp-pointed *Fluellin*.

Corn fields. [Suff. frequent. Mr. Woodw.] A. Aug.—Oct.

This is considerably more bitter than the other species, and is said to have been used successfully in cases of foul ulcers, and in cutaneous eruptions.

round-leaved ANTIRRHI'NIUM *spurius*. *Leaves* egg-shaped, alternate. *Stems* trailing. LINN.—*Lowest leaves* opposite. RELIAR. Mr. WOODWARD.

Curt. iii. 35.—*Fuchs.* 167, *cop. in* J. B. iii. 372. 1, and *Dod.* 42. 1, which *repr. in* *Ger. em.* 625. 1; imitated in *Lenic.* i. 63. 3, and

and Park. 553. 1, and abridged in H. ox. v. 14. 27.—Matth. 694.—Ger. 501. 1.—Lob. adv. 197, repr. in ic. i. 470. 1.—Riv. mon. 86. 1, *Elatine*.

Did it not originate from the dust of the *A. Elatine*, fertilising the seed-buds of *A. Cymbalaria*? LINN.—Sometimes becomes a kind of *Peloria*. RAMSPECK and STEHELIN.—Flowers sometimes regular as in *A. Elatine*. HUDS.—Leaves sometimes slightly toothed. RELHAN. Mr. WOODWARD.—Stem branched from the base, with long expanding hairs. Leaves hairy. Fruit-stalks from the bosom of the leaves. Empalement very hairy. Blofs. spur shorter than the body of the blossom. Mr. WOODWARD.—Fruit-stalks, the lower generally shorter, the upper longer than the leaves. Blofs. yellow and purple. ST.

Corn fields. [Suff. frequent. Mr. WOODW.] A. July.—Sept.

* * Leaves opposite, LINN.—and the spur of the flower fully extended. HUDS.

ANTIRRHI'NUM *repens*. Leaves strap-shaped, *creeping* crowded; the lower in fours. Empalements as long as the capsules. LINN.—Leaves spear-strap-shaped; the lower in whorls. Stem paniced. Fruit-stalks in spikes, naked. HUDS. comprehending *A. monspessulanum* as a variety.

Dill. elth. 163. 197.

Fields, banks, and walls near Henley, and in Herts. RAY.

P. July.—Sept.

α. HUDS. *A. monspessulanum*. LINN. which see.

ANTIRRHI'NUM *monspessula'num*. Leaves strap-shaped, crowded. Stem shining, paniced. Fruit-stalks spiked, shining.—

J. B. iii. 459. 1.

Flowers sweet-scented. Blofs. spur straight, very short, shorter even than the empalement. Very nearly allied to *A. repens*. LINN. Floral-leaves spear-shaped, 1 at the base of each fruit-stalk. Blofs. pale blue, with darker spots; spur nearly as long as the body of the blossom. Empal. very small, segments pointed. Mr. WOODW.

Antirrhinum repens α HUDS.

Hedges near Penryn, Cornwall. RAY.—[Stone wall between Penryn and Falmouth. Mr. WATT.]

P. July.—Sept.

ANTIRRHI'NUM *arven'se*. Leaves nearly strap-shaped, *corn* shaped; the lower in fours. Empalements with clammy hairs. Flowers spiked. Stem upright.—

Dill. elth. 163. 198.

U 12

Leaves

Leaves smooth. Flowers very small. Floral-leaves bent back. Blofs. spur bowed back. Blofs. blue. LINN.

Corn fields in a sandy soil.

A. July. Aug.

γ. Blossoms yellow.

Col. ecphr. 300. 1. Not examined.

*** *Leaves opposite. LINN.—Spur of the flower short, blunt. Huds.*

least ANTIRRHINUM *mi'nus*. The greater part of the leaves alternate, spear-shaped, blunt. Stem very much branched, spreading.—

Curt. v. 50.—Fl. dan. 502.—Riv. mon. 85. 2, Linaria arv. min.

—*Lob. ic. i. 406. 1, repr. in Ger. em. 549. 5.—Park. 1334. 2.*

—*J. B. iii. 465. 1.—Matth. 1198.*

Leaves, only the 3 lowermost pairs opposite. LINN.—Stem much branched, hairy. Lower branches opposite, the upper alternate. Leaves alternate. Fruit-stalks from the bosom of, and equal to, or longer than the leaves. Empal. segments strap-shaped, nearly equalling the blossom. Blofs. spur blunt, shorter than the body of the blossom. Mr. Woodw.—Blofs. purple and yellowish white, with a very short spur.

Gravelly corn fields. [Binham, Norf. Mr. CROWE.—Near Berkhamstead, Herts. Mr. WOODWARD.] A. June.—Sept.

Cows and Sheep eat it. Swine are not fond of it. Horses and Goats refuse it.

**** *Leaves alternate.*

Toad flax ANTIRRHINUM *Lina'ria*. Leaves spear-strap-shaped, crowded. Stem upright. Spikes terminating, sitting. Flowers tiled.—

Curt. 1. 5.—Riv. mon. 83. 1, Linaria.—Sheldr. 49.—Ludw. 12.

—*Dod. 183. 1, repr. in Lob. obs. 222. 2, ic. i. 406. 2, Ger.*

em. 550. 1, and cop. in Park. 458. 1.—Ger. 440.—Lonic. i.

154. 2.—Fuchs, 545, cop. in J. B. iii. 456. 2.—Blackw. 115.

—*Trag. 357.—H. ox. v. 12. 10.*

Blofs. the palate woolly, orange-coloured. Honey-cup long, awl-shaped. Caps. opening with equal divisions. LINN.—Stem nearly cylindrical, smooth. Branches nearly upright, from the bosom of the leaves. Blofs. lower lip, segments circular, the middle one much smaller, the projecting part orange-coloured, woolly, the rest of the blossom pale yellow and smooth. Honey-cup conical. Threads of the 2 longer chives hairy at the base. Tips a little woolly, those of the 2 longer chives adhering together even after shedding their dust. Caps. egg-shaped. Seeds nearly flat, circular, with a shallow notch. Blofs. sometimes whitish; spur long and crooked. WITH.

Toad-flax.

Toad-flax. [Butter and eggs. Worcesterfhire. ST.]

Barren meadows and pastures, road fides, [hedges on road fides. ST.] P. July.—Sept.

An infusion of the leaves is diuretic and purgative. An ointment prepared from them gives relief in the piles. The expreffed juice, mixed with milk, is a poifon to flies, as is likewise the fmell of the flowers.

Cows, Horses, and Swine refuse it. Sheep and Goats are not fond of it. LINN.—A Horse eat fome of the young shoots in Aug. WITH.—A Horse eat it, tho' they often leave it in the fields. ST.

2. Spurs 2 or more. CURT. WITH.

β. PELORIA.

Amoen. acad. i. 3. at p. 298.

A hybrid offspring of the *A. Linaria*, amongst which it is found growing, agreeing with it in its sensible properties, widely multiplying itself by roots, but exceedingly different in the characters of the fructification, having a regular blossom with 5 clefts, 5 horns, and 5 chives, so that it would form a very distinct genus, were not its fruit constantly abortive. Stem simple, upright, cylindrical, sometimes, tho' rarely, furnished with 1 or 2 branches. Leaves numerous, scattered, strap-shaped, smooth, upright but expanding. Flowers in a spike, terminating, 9, 12, or 18 together. Cal 1 leaf, with 5 divisions, equal, very short, permanent. Bloss. petal 1, funnel-shaped, yellow, paler towards the base, with 5 honey-cups at the base. Tube long, straight, cylindrical, but distended from the middle downwards. Border with 5 divisions, blunt, equal, expanding, inner side filled with tawny hairs. Honey-cups 5, awl-shaped, flat, resembling a horn, growing in a circle round the base of the tube. Chives, threads 5, hair-like, equal, half as long as the tube, and fixed to the receptacle. Tips roundish, fixed sideways to the threads. Pointal, seed-bud egg-shaped. Shaft thread-shaped, as long as the chives. Summit thick and blunt. Seed-vessel, capsule egg-shaped, with 2 cells and 2 valves. Receptacles convex, growing to the partition. Seeds several, angular. It is truly a prodigy of nature, and should seem to have originated from an impregnation of the seed-buds of *A. Linaria* by the dust of some other plant, perhaps of one of the *Gentians*. LINN.—I am, however rather disposed to regard it as a peculiar monstrous degeneracy in the structure of the flower, to which this genus, from what cause I know not, seems to be liable above all others, as is evident from its also taking place in the *A. spurium*, *Elatine*, and *Cymbalaria*. MURR.

Sandy fields about Clapham, Surry. HUDS. ed. i. P. July.

***** Blossoms gaping; or without a spur.

greater ANTIRRHI'NUM *ma'jus*. Blossoms without a spur. Flowers in spikes. Empalements rounded.—

Ludw. 51.—*Riv. mon.* 82. 1, *Antirrhinum*.—*Mill.* 42.—*Dod.* 182. 1, repr. in *Lob. obs.* 221. 2, ic. i. 404. 2. *Ger. em.* 549. 1 and 2.—*Ger.* 438. 1.—*Matth.* 1197.

Stem spreading, rod-like. *Leaves* spear-shaped. *Empal.* leaves short, with clammy hairs. *Honey-cup* blunt, scarcely projecting. *Capfule* opening at the point obliquely, unequal at the base. LINN.—*Leaves* on leaf-stalks. *Bloss.* purple.

Snapdragon.

Old walls, and chalk cliffs near Dover, and between Northfleet and Gravesend. [Walls near Norwich; Cambridge, &c. Mr. WOODWARD.] B. June. July.

A Horse refused it. St.

Calfs-snout ANTIRRHI'NUM *Oron'tium*. Blossoms without spurs. Flowers nearly spiked. Empalements longer than the blossoms.—

Curt. iv. 39.—*Riv. mon.* 82. 2, *Antirrhinum arvensc.*—*Dod.* 182. 2, repr. in *Lob. obs.* 222. 1, ic. i. 405. 2, *Ger. em.* 549. 4, and cop. in *Park.* 1334. 1.—*Lonic.* i. 155. 3.—*Matth.* 1199.—*Ger.* 439. 4.

Capfule when opening resembles the skull of a monkey. LINN.—*Stem* upright, branched, hairy. *Leaves* spear-shaped, very entire. *Flowers* from the bosom of the leaves, on very short fruit-stalks, sometimes, though rarely, sitting. *Empal.* segments strap-shaped, and lengthening after the falling off of the blossom. *Capf.* much shorter than the empalement. Mr. WOODWARD.—*Blossoms* purple, with a little yellow.

Calf's-snout.

[Corn fields in a sandy soil, and turnep fields, Norfolk. Mr. WOODW.—and Worcesterfh. Mr. BALLARD. ST.] A. July. Aug. A poisonous plant, LINN.

814. SCROPHULARIA. Figwort.

EMPAL. *Cup* 1 leaf; with 5 clefts; permanent. *Segments* rounded; shorter than the blossom.

BLOSS. 1 *petal*; unequal. *Tube* globular; large; bladder-shaped. *Border* very small; with 5 divisions. The 2 *upper segments* larger than the others; upright; the 2 *lateral* ones open; the *lower* reflected.

CHIVES. *Threads* 4; strap-shaped; declining; as long as the blossoms; 2 of them ripening later than the other 2. *Tips* double.

POINT. *Seed-bud* egg-shaped. *Shaft* simple; agreeing in length and situation with the chives. *Summit* simple.

S. VESS. *Capsule* roundish; tapering; cells 2; valves 2; partition formed by the edges of the valves turning in; opening at the top.

SEEDS many; small. *Receptacle* single; roundish; extending itself into each cell.

ESS. CHAR. *Empal.* clefts 5. *Bloss.* nearly globular; reversed. *Capsf.* cells 2.

Obs. In the mouth of the blossom, beneath the 2 upper segments, lies another little segment resembling a lip; but this is not common to every species. The *blossom*, in this genus, should be considered as reversed. The *upper lip* smaller, bowed back, rounded, the chives bowed down towards it; the lateral segments scolloped, rounded, equal to the upper; the *lower lip* larger, open, with 2 divisions; the *intermediate lip* very small, placed in the fore part.

SCROPHULARIA *nodosa*. Leaves heart-shaped, knobby rooted 3-fibred. Corners of the stem* blunt. LINN. *Fl. suec. syst. veg. and syst. pl.*—Acute. *Sp. pl.*—Bluntish, and bare below; acute and membranaceous above. Leaves triangularly heart-shaped, pointed. ST.†

Ludw. 72.—Gunn. ii. 4. 1.—Blackw. 87.—Fuchf. 194, cop. in J. B. iii. 421.—Riv. mon. 107. 1, *Scrophularia*.—Math. 1130, cop. in Dod. 50. 1, which repr. in Lob. obs. 289. 1, ic. i. 533. 2, Ger. em. 716. 1, and cop. in Park 610. 1, H. ox. v. 8. row

* *Caule acutangulo. Sp. pl. POLLICH. ST.*—Not obtusangulo, as in *Fl. suec. Syst. veg. and Syst. pl. ST.*

† *Folliis triangulari-cordatis, acutis, ST.*

3. 3, and *Pet.* 35. 9.—*Ger.* 579. 2.—*Trag.* 184.—*Lonic.* i. 135. 3.

Leaves 3-fibred as in *Arctium Lappa*, and *Tussilago Petasites*. Bunch terminating. LINN.—*Root* with unequal tuberosities. *Leaves* pointed, ferrated. J. BAUH. ST.—*Stem*, angles clearly acute, sometimes edged with a membranaceous line, but not to be called winged. *Leaves* imperfectly heart-shaped, the base being rather cut transversely. CRANTZ. ST.—*Leaves* pointed, and ferratures pointed. *Flowers* on forked branches. *Floral-leaves* spear-shaped, taper-pointed, a pair to each flowering branch. MR. WOODWARD.—*Leaves* doubly ferrated, angular behind, from the angles to the leaf-stalks very entire. ST.—*Upper-leaves* nearly sitting, spear-shaped. *Fruit-stalks* cylindrical, with short pellucid hairs terminated by globules. *Empalement* toothed and membranaceous at the ends. *Bloss. tube* filled at the base with a honey-like liquor; *upper segments* purple; the rest pale green; the 2 lateral ones expanding; the lower bent back. The little heart-shaped segment within the base of the 2 upper segments seems to deserve the name of *honey-cup*. *Chives* before flowering rolled inwards. *Tips* simple. *Receptacle* yellow, glandular. WITH.

Great Figwort. Kernelwort.

Woods and moist hedges.

P. July.

This plant is hardly known in modern practice; but the rank smell, and bitter taste of the leaves, seem to indicate some active properties.—Swine that have the scab are cured by washing them with a decoction of the leaves. Wasps resort greatly to the flowers.

Goats eat it. Cows, Horses, Sheep, and Swine refuse it.

water

SCROPHULARIA *aquatica*. *Leaves* heart-shaped, blunt, on leaf-stalks, running down the stem. Corners of the stem edged with a membrane. Bunches terminating. LINN.—*Leaves* heart-oblong, scolloped, frequently with appendages below the base. ST.*

Curt. v. 49.—*Blackw.* 86.—*Fl. dan.* 507.—*Dod.* 50. 2, repr. in *Lob. obs.* 288. 1, ic. i. 533. 1,† *Ger. em.* 715, and cop. in *Park.* 613, and abridged in *Pet.* 35. 10, and *H. ox.* v. 8. row 3. 4.—*Ger.* 579. 1.

Stem smooth, 4-cornered, corners membranaceous; the membranaceous leaf-stalks running down the corners of the stem, and forming a membranaceous edge, which is often waved. LINN.—

Stem

* *Foliis cordato-oblongis, crenatis, sub-appendiculatis.* ST.

† This figure Loeffing refers to his *S. auriculata*, though a re-impression of *Dod.* 50. 2, which Linnæus gives to *S. aquatica*, ST.

—*Stem* upright. *Branches* opposite, short. *Leaves* opposite, on leaf-stalks, oblong-heart-shaped, pointed, serrated, veined. *Leaf-stalks* running down the stem. *Floral-leaves* oblong, concave. *Fruit-stalks* cloven into 3, quadrangular. *Pedicles* round, rough with hair. *Flowers* dirty red. *Empalement* blunt. *Chives* woolly. LYONS.
 —*Leaves* heart-egg-shaped, scolloped. *Panicle* naked, branched; the lower branches opposite, the upper alternate, forked. *Floral-leaves* awl-shaped, a pair at the base of each branch. MR. WOODW.—*Leaves*, teeth blunt. ST.—*Upper leaves* egg-shaped. *Empalement* skinny at the edge. *Threads* studded with purple spots. *Tips* simple, terminating, opening at the top. *Dust* yellow. *Seed-bud* on a yellow glandular receptacle. WITH.

Water Betony.

Watery places, and banks of rivers. P. July [to Sept. WITH.]

SCROPHULA'RIA *Scorodo'nia*. Leaves heart-shaped, doubly serrated. Bunch compound, with leaves interspersed.—

H. ox. v. 35. row 2. f. 2.—Pluk. 59. 5, cop. in Pet. 35. 11.

Resembles *S. nodosa* and *S. auriculata*, but differs from the latter in the hairiness of the stem, and the want of appendages to the leaves. *Stem* very hairy. *Leaves* with a gaping hollow at the base, angles or serratures pointed, (*Mant.*) serratures blunt. (*Sysl. veg.*) *Bunch* with leaves interspersed, which is not the case with the other species. LINN.—*Leaves* downy, the upper terminated by an awn as are the serratures. *Floral-leaves* awl-shaped, a pair beneath each division of the fruit-stalks. MR. WOODW.—*Bloss.* dusky purple.

Watery places, and hedges. Island of Jersey, between the Port and St. Hilary. Sea shore about St. Ives, Cornwall. P. July. Aug.

SCROPHULA'RIA *verna'lis*. Leaves heart-shaped; those of the stem in threes. Fruit-stalks from the bosom of the leaves solitary, cloven.—

Fl. dan. 411.—Riv. mon. 107. 2. Scrophularia flore lut.—Barr. 273.

—*Clus. ii. 38. 1, repr. in Ger. em. 717, and cop. in Park. 608.*

4.—*C. B. pr. 112.*

Stem and *leaves* hairy. *Bloss.* egg-shaped, yellow. LINN.—*Leaves* doubly serrated. *Fruit-stalks* hairy, the primary ones longer than the leaves, the secondary short. *Floral-leaves* spear-shaped, hairy, a pair at the base of the secondary fruit-stalks. MR. WOODWARD.

Watery places and hedges, About Bury, and near Mitcham, Surry; Gloddaeth, Caernarvonsh. [Fornham, near Bury, Suff. MR. WOODWARD.]

B. April. May.

The different species afford nourishment to the *Phalæna Verbasci*, *Curculio Scrophulariæ*, and *Tenthredo Scophulariæ*.

816. DIGITA'LIS. Foxglove.

EMPAL. Cup 5 divisions; segments roundish; sharp; permanent; the upper narrower.

BLOSS. 1 petal; bell-shaped. Tube large; expanding; distended on the under side; cylindrical and slender at the base. Border small; clefts 4. Upper segment most expanded; notched at the end. Lower segment largest.

CHIVES. Threads 4; 2 long and 2 short; awl-shaped; fixed to the base of the blossom; declining. Tips cloven; tapering to a point.

POINT. Seed-bud taper. Shaft simple; standing along with the chives. Summit sharp.

S. VESS. Capsule egg-shaped; as long as the cup; taper; cells 2; valves 2; opening in 2 directions.

SEEDS many; small.

ESS. CHAR. Empalement with 5 divisions. Bloss. bell-shaped; with 5 clefts; bulging. Capsule egg-shaped; cells 2.

common DIGITA'LIS *purpurea*. Leaves of the empalement egg-shaped, pointed. Blossoms blunt; upper lip entire, LINN.—very slightly notched. WITH.

Riv. mon. 104, *Digitalis*.—Curt. i. 11, copied under Mr. Curtis's inspection in Withering's account of the Foxglove, 8vo, 1785.—Fl. dan. 74, parts of fructification.—Tourn. 73. A. E. L. M.—Fuchf. 893, cop. in Trag. 889, J. B. ii. 812. 3, and Lonic. i. 74. 1.—Blackw. 16.—Dod. 169, repr. in Lob. obs. 308. 2, ic. i. 572. 1, Ger. em. 790. 1, and cop. in Park. 653. 1.—Ger. 646. 1.—Lob. ic. i. 572. 2.—H. ox. v. 8. row 1. 1.—Fl. dan. 74, the reduced figure.—Swert. 6. 1 and 2.

Leaves wrinkled. Bloss. the bellying part sprinkled on the inside with spots like little eyes. LINN.—Leaves scolloped; teeth small, deep; on leaf-stalks, with a net-work of fleshy veins underneath. Leaf-stalks half embracing the stem. Floral-leaves spear-shaped, $\frac{1}{2}$ embracing the stem, purplish towards the point. Mr. Woodw.—Leaves sitting, a little woolly underneath. Empalement egg or spear-shaped. Bloss. inversely conical, but swelling out on the under side. Tips deeply divided. WITH.—Leaves sometimes with whitish yellow blotches. ST.—Flowers in long terminating spikes, all pointing one way. Blossoms purple, elegantly mottled on the inside.

Foxglove.

Road

Road sides and hedges, [in dry gravelly and sandy soils. WITH.—Bawfey, near Lynn. Mr. CROWE.—Woods in Essex, &c. Mr. WOODWARD.—Shenstone Lane, near Hartlebury, Worcesterfh. ST.] B. June. July.

A dram of it, taken inwardly, excites violent vomiting. It is certainly a very active medicine, and merits more attention than modern practice bestows upon it. *Bot. Arr. ed. i.*—For an account of its medical properties see *Withering on the Foxglove*, *Med. trans.* iii. and *London Medical Journal*.

β. Blossoms white. RAY. LINN. WITH.

836. SIBTHORP'IA. Moneywort.

EMPAL. *Cup* 1 leaf; turban-shaped; divisions 5; expanding; *leaves* egg-shaped; permanent.

BLOSS. 1 *petal*; divisions 5; expanding; equal; as long as the cup. *Segments* rounded.

CHIVES. *Threads* 4; hair-like; 2 of them approaching. *Tips* heart-oblong.

POINT. *Seed-bud* roundish; compressed. *Shaft* cylindrical; thicker than the threads; as long as the blossom. *Summit* a simple knob; depressed.

S. VESS. *Capsule* compressed; round and flat; swelling out in 2 places; edges sharp; valves 2; cells 2; partition transverse.

SEEDS several; roundish-oblong; convex on one side; flat on the other.

ESS. CHAR. *Empal. divisions* 5. *Bloss. divisions* 5; equal. *Chives* in distant pairs. *Capsule* compressed; orbicular; cells 2; partition transverse.

SIBTHORP'IA *europæa*. Leaves between kidney *bastard* and target-shaped, scolloped.—

Pluk. 7. 6, cop. in Pet. 6. 11.

Habit and *stem* of *Hydrocotyle*, fruit of *Veronica*. Root annual, but sometimes, as also the whole plant, perennial. *Stems* numerous, a foot long, thread-shaped, limber, not much branched, trailing, often throwing out roots near the leaf-stalks, hairy. *Leaves* alternate, very remote, on leaf-stalks, like those of the *Chrysosplenium*, heart-orbicular, one side opening to near the centre, horizontal, with 6 or 7 slight lobes, the lateral ones the smallest, blunt, about the breadth of a pea, sprinkled with small, simple, scattered, transparent bristles. *Leaf-stalks* short, ascending. *Fruit-stalks* thread-shaped, from the bosom of the leaves, upright, solitary,

tary, as long as the flower, often shorter than the leaf-stalks, nodding after flowering. *Floral-leaves* awl-shaped, one towards the point of the fruit-stalks. *Empalement* with 5 clefts, hairy. *Bloss.* generally with 5 clefts, small, purplish, purple at the bottom, about the size of that of the *Limosella*. *Chives* equal, always 4, with a vacancy at one of the divisions of the blossom, whence its inequality, and its title to a place in this class. Did not this plant originate from the seed-bud of the *Chrysosplenium alternifolium* fertilised by the dust of the *Hydrocotyle vulgaris*? LINN.

Shady marshy places, springs and rivulets. Cornwall and Devonsh. frequent. About Longfledale, Westmorel. P. July—Sept.

837. LIMOSEL'LA. Mudweed.

EMPAL. *Cup* 1 leaf; with 5 shallow clefts; sharp; upright; permanent.

BLOSS. 1 *petal*; bell-shaped; upright; equal; with 5 shallow clefts; sharp; small; *segments* expanding.

CHIVES. *Threads* 4; upright; 2 leaning to the same side; shorter than the blossom. *Tips* simple.

POINT. *Seed-bud* oblong; blunt. *Shaft* simple; as long as the chives; declining. *Summit* globular.

S. VESS. *Capsule* egg-shaped; half inclosed in the cup; with 1 cell, and 2 valves.

SEEDS many; oval. *Receptacle* egg-shaped; very large.

ESS. CHAR. *Empal.* clefts 5. *Bloss.* clefts 5; equal. *Chives* approaching in pairs. *Capsule*, cell 1; valves 2; seeds numerous.

Plantain LIMOSEL'LA *aquat'ica*. Leaves spear-shaped.—

Fl. dan. 69.—*Hall. jen.* 6. 3. at p. 295.—*H. ox.* xv. 2. row 2. f.

2.—*Fluk.* 74. 4, cop. in *Pet.* 65. 12.

Leaves rolled inwards. *Bloss.* hairy above. *Chives* 2 and 2, in opposite pairs. LINN.—*Stems* trailing. *Leaf-stalks* very long. *Flowers* solitary. *Bloss.* white without, reddish within.

Bastard Plantain.

Muddy and gravelly places liable to be flooded, and where waters have stood during the winter.

A. July.—Sept.

841. OROBAN'CHE. Broom-rape.

EMPAL. *Cup* 1 leaf; with 5 clefts; upright; coloured; permanent.

BLOSS. 1 *petal*; gaping. *Tube* leaning; large; distended. *Border* expanding. *Upper Lip* concave; open; notched at the end. *Lower Lip* reflected; with 3 segments; unequal at the edge. *Segments* nearly equal.

CHIVES. *Threads* 4; 2 long and 2 short; awl-shaped; concealed under the upper lip. *Tips* upright; approaching; shorter than the border. *Honey-cup* a gland at the base of the seed-bud.

POINT. *Seed-bud* oblong. *Shaft* simple; agreeing in length and situation with the chives. *Summit* with a shallow cleft; blunt; thick; nodding.

S. VESS. *Capsule* oblong-egg-shaped; taper; with 1 cell, and 2 valves.

SEEDS numerous; very small. *Receptacles* 4; strap-shaped; lateral; connected.

ESS. CHAR. *Empalement* cloven into 2. *Blossom* gaping. *Caps. cell* 1; *valves* 2; *seeds* many. *A gland* under the base of the seed-bud.

OBS. Empal. and blossom differ in different species. REICH.

OROBAN'CHE *major*. Stem quite simple, downy. common
Chives just appearing out of the blossom. LINN.—within
the blossom. *Fl. suec.* HALL. Mr. WOODWARD.—Bloss.
with 4 clefts. HUDS.

Curt. iv. 39.—*Tourn.* 81, *Orobanché*, parts of fructification.—*Clus.* i. 270. 2, repr. in *Dod.* 552. 3, *Ger. em.* 1311. 2, and cop. in *H. ox.* xii. 16. 1.—*Riv. mon.* 89. 1, *Orobanché*.—*Ger.* 1130. 2, cop. in *Pet.* 69. 10.—*Lob. obs.* 531. 1. a, repr. in *ic.* ii. 89. 1. a, and *Ger. em.* 1311. 1. a, and cop. in *Park.* 229. 1. a.—*Math.* 536.—*J. B.* ii. 781. 1.—*Lonic.* ii. 24. 1.—(*J. B.* ii. 780. 1 and 2, seem a different species.)

Plant of a brown colour. *Root* short, fibrous, at the base of the stems, several of which sometimes rise from the same root, tuberous. *Stem* simple, upright, from a span to a foot high, cylindrical, slightly downy. *Leaves* none, except some spear-shaped, pointed, alternate, scattered scales. *Spike* terminating, occupying the upper half of the stem. *Floral-leaves* spear-shaped, pointed,

as

as long as the blossom. *Empalement* lateral; *leaves* 2, spear-shaped, pointed, narrow, in the upper flowers cloven at the point, somewhat smaller than the blossom. *Bloss.* with a tinge of pale yellow, tubular, crooked; *tube* round, keeled and purplish on the back above; *border* with 2 lips, which are nearly equal; *upper lip* cloven, segments bent inwards, finely scalloped, blunt, very short; *lower lip* straight, hanging down, lateral segments taper-pointed, with 3 teeth, the middlemost roundish, somewhat larger, finely scalloped. *Honey-cup* a small scale before the base of the seed-bud. *Threads* crooked, as long as the blossom. *Tips* somewhat heart-shaped, distinct. *Seed-bud* pointed. *Shaft* thread-shaped. *Summit* a knob, nearly square, with a furrow in the middle, nodding. LOEFL.—*Root* large, fleshy, oval, scaly. *Leaves* none. *Stalk* 8 to 12 inches, with dry scattered scales. *Flowers* spiked, cylindrical, brownish rust-coloured. *Summit* yellow, bluntly heart-shaped. *Empalement* with 4 clefts. *Seeds* exceedingly numerous. RELHAN.—*Plant* rust-coloured. *Root* bulbous. *Stem* without leaves, but clothed with egg-shaped scattered scales. *Floral-leaves* spear-shaped, taper-pointed, generally longer than the flower. *Empalement* with 4 teeth, the 2 outer longer and sharper, the lower blunt. *Chives* within the flower. MR. WOODWARD.—*Plant* without any appearance of green, and when in full bloom has the appearance of a withered plant. *Root* brownish white. *Stalk* and *flowers* with a purplish tinge. *Honey-cup* yellow. SR.

Rapum genistæ, five *Orobanchæ*. Ger. em. (ST.)

Broom-rape.

Dry meadows, on the roots chiefly of the class *Diadelphia*, as *Spartium scoparium*, *Genista tinctoria*, *Trifolium*, *Orobas tuberosus*, and also on *Hieracium sabaudum*, and *Centaurea Scabiosa*. [Also in corn fields in a sandy soil, which have probably had Broom growing on them. Broom Hills, very frequent. MR. WOODW.—Shrawley Wood, Worcestershire. MR. BALLARD.—On a dry bank near Clifton upon Teme, Worcestersh. ST.] P. May. June.

branched OROBAN'CHE *ramosa*. Stem branched. Blossoms with 5 clefts. LINN.—Stem mostly branched. HUDS.

J. B. ii. 731, *bulb* well, but *flowers* indifferently represented.—Sabb.

iii. 12, *stem* and *flowers* well done, *bulb* indifferently.—Clus. i.

271. 1, repr. in Ger. em. 1312. 3, abridged in Pet. 69. 11.

—Park. 1360. 13, seems a mere work of imagination. MR.

WOODWARD.

Stem about a span high, entire, smooth, and succulent. *Floral-leaves* spear-shaped, one at the base of each flower. *Empal.* segments 4, strap-shaped, hairy at the margin. *Bloss.* tube nearly cylindrical, and as long as the empalement; *mouth* open; *upper lip* cloven; *lower lip* with 3 clefts, segments equal. *Honey-cups* 2 on the lower lip, and sometimes on the sides. *Threads* nearly equal, pretty long. *Tips* white, double, joined into a half cylinder, and ending below the summit in a short bristle. OSBECK. Mr. WOODW.

—*Stem* upright, angular, scaly, yellowish, branched at the base, but frequently simple; *branches* upright, nearly as long as the stem; *scales* egg-shaped, pressed to the stem. *Flowers* spiked, fitting, with a tinge of brownish purple. *Bloss.* *upper lip* roundish, cloven; the *lower* with 3 clefts. *Floral-leaves* solitary, egg-shaped, membranaceous, purplish. *Chives* shorter than the blossom. HUDS.—*Root* a solid bulb, elliptical, naked, or furnished with 1 or 2 spear-shaped fitting scales, and numerous short thick fibres affixed laterally, adhering and intermixed with the fibres of the roots of Hemp or other plants. *Stem* a continuation of the bulb, nearly cylindrical when fresh, angular when dry, slightly downy, brown or dirty yellow, naked, or furnished with very few scales. *Branches* either immediately from the root, or alternate, swelling at the base, nearly upright, with each a scale at the base. *Spikes* terminating, thick. *Floral-leaves* oval-spear-shaped, somewhat keeled, fitting. *Empal.* segments pointed, the 2 outer largest, the inner halved, the sides next the stem being wanting. *Bloss.* tube bellying, yellow at the base, the upper part and lips bluish purple, hairy on the outside; *upper lip* roundish; the middle segment largest, and with 2 yellowish prominencies at the mouth, similar to those in *Melampyrum*. *Threads* within the tube, bluish. *Tips* yellow. *Seed-bud* oval. *Shaft* longer than the threads and bending towards them, bluish. *Summit* blunt. Mr. WOODWARD.

Orobanche minor purpureis floribus sive ramoso. J. B. ii. 781. (Mr. WOODWARD.)—*Orobanche ramosa.* GER. em. 1312. (ST.)

Corn fields and dry pastures. Near Beckles, Suffolk. RAY.—Isle of Shepey, and near Feversham and Rochester; about Glastonbury, and in Devonshire and Hants. HUDS.—[Brome near Bungay, Suffolk. Mr. WOODW.] P? HUDS.—A? having found it on the roots of Hemp and *Galeopsis Tetrahit*, both annual plants. Mr. WOODWARD.

June, July, [and Sept. Mr. W.]

β. HUDS. Stem simple.

J. B. ii. 781. 1.

Stem

Stem very scaly, slightly downy; *scales* oval-spear-shaped. *Spike* loose. *Floral-leaves* oval-spear-shaped, somewhat keeled, as long as the empalement. *Empalement* with 4 deep divisions; segments awl-shaped; the 2 outer the largest; the inner one next the stem very small. *Blofs. tube* longer than the empalement; *upper lip* short, cloven, roundish; *lower* with 3 clefts. *Chives* within the flower. Mr. WOODWARD.

Field of oats 2 miles beyond Rochester on the left hand going towards Horns-place. RAY.—[Northkeps, Norf. a single plant. Mr. PITCHFORD.—Specimen from Mr. Lightfoot agreeing with that of Mr. Pitchford's. Mr. WOODWARD.]

Class

Class XV.

TETRADYNAMIA.

IV. CHIVES LONGER.

IN the flowers of this Class there are 6 Chives; 4 of them long, and 2 short.

The ORDERS are 2, and are distinguished by the figure of the seed-vessel, which, in the 1st Order, is a *POUCH*; that is, a roundish flat seed-vessel, furnished with a *Shaft*, which is frequently as long as the seed-vessel itself. In the 2d Order, the seed-vessel is a *POD*; that is, a very long seed-vessel, without any remarkable shaft.

The plants of this Class admit of the following

NATURAL CHARACTER.

EMPAL. *Cup* oblong; of 4 leaves. *Leaves* oblong-egg-shaped; concave; blunt; approaching; standing in opposite pairs; bellying at the base. The *Honey-cup* is formed within the empalement, and often occasions it to be bellied at the base.

BLOSS. cross-shaped. *Petals* 4; equal. *Claws* flattish awl-shaped; upright; generally longer than the *Cup*. *Border* flat. *Limbs* broadest towards the end; blunt; hardly touching one another at the edges. The petals fixed in the same circle with the chives.

CHIVES. *Threads* 6; awl-shaped; upright; the 2 opposite ones as long as the cup; the other 4 somewhat longer, but shorter than the blossom. *Tips* rather oblong; taper; thickest at the base; upright; but with the top bent outwards. *Honey-cups*; glands, which differ in different genera. They grow near the chives, and are mostly fixed at the base of the shorter chives, which are generally bent outwards, to prevent the compression of the glands, and therefore appear shorter than the others.

POINT. *Seed-bud* superior; daily growing taller. *Shaft* the length of the longest chives; but in some genera there is no shaft. *Summit* blunt.

S. VESS. *Pod* with 2 valves; often with 2 cells; opening from the base to the point. *Partition* projecting beyond the points of the valves, and occupying the place of the shaft.

SEEDS roundish; inclining downwards; lodged in the partition lengthways and alternately. *Receptacle* narrow, surrounding the partition, and lodged in the seams of the seed-vessel.

Obs. This Class is truly natural, and has been considered as such by all the best systematic writers; nevertheless, they have thrown into it one or more genera that do not naturally belong to it; but this we have avoided. It contains the SILIQUOSE plants of Ray, and the CROSS-SHAPED flowers of Tournefort. The plants of this Class are universally called *Anti-scorbutic*; their taste is acrid and watery, they lose most of their virtues by drying. A volatile salt may be obtained from them by simple distillation, and particularly from the fresh seeds. *Phil. Transl. ab. vii. 752.* (STR.)—None of them are poisonous. In moist situations, and wet seasons, they are most acrimo-

acrimonious. Thus the *Cochlearia Armoracia*, (Horse-radish) growing near water, is so very acrid, that it can hardly be used; and *Brassica Rapa*, (the Turnep) whose root in a dry sandy soil is so succulent and sweet, in wet stiff lands is hard and acrimonious.

Order I.

SILICULOSA; SEED-VESSEL a POUCH.

* Pouch entire; not notched at the end.

864. DRA'BA. Pouch with nearly flat valves. Shaft none.
 863. SUBULA'RIA. Pouch with half egg-shaped valves. Shaft shorter than the pouch.
 860. MY'AGRUM. Pouch with concave valves. Shaft permanent.
 861. VEL'LA. Pouch with valves only half the length of the partition.

† Bunias. Crambe. Ifatis. LINN.—*Cochlearia Coronopus*, &c. ST.

** Pouch notched at the end.

868. I'BERIS. Two outermost petals the largest.
 867. COCHLEA'RIA. Pouch heart-shaped. Valves blunt; bellying.
 865. LEPID'IUM. Pouch heart-shaped. Valves sharply keel-shaped.
 866. THLAS'PI. Pouch inversely heart-shaped. Valves in some species bordered; keel-shaped.

Order II.

SILIKUOSA; SEED-VESSEL a POD.

* Cup closed; its leaves approaching lengthways.

886. RAPH'ANUS. Pod jointed.
 878. ERY'SIMUM. Pod 4-edged.
 879. CHEI'RANTHUS. Pod marked by a small gland on each side the seed-bud.
 881. HES'PERIS. Glands situated within the shorter chives. Petals oblique.
 882. AR'ABIS. Glands 4; within the leaves of the cup. Summit simple.
 884. BRAS'SICA. Glands, 2 within the shorter chives; and 2 on the outside the longer chives.
 883. TURRI'TIS. Petals upright.
 875. DENTA'RIA. Pod with valves, which roll back when open.

** Cup open; its leaves standing wide at the top.

889. CRAM'BE. Pod deciduous; globular; like a dry berry. The 4 long Chives forked at the top.
 888. I'SATIS. Pod deciduous; spear-shaped; containing 1 seed.
 887. BU'NIAS. Pod deciduous; circular; covered with sharp points.
 876. CARDAM'INE. Pod opening. Valves rolling back.
 885. SINA'PIS. Pod opening. Cup expanding horizontally.
 877. SISYM'BRIUM. Pod opening. Valves nearly straight. Cup open.

† Brassica Napus.

Order I.

SILICULOSA; SEED-VESSEL a POUCH.

860. MY'AGRUM. Camline.

EMPAL. Cup 4 leaves; oblong-egg-shaped; concave; opening; coloured; deciduous.

BLOSS. 4 petals; forming a cross; flat; circular; blunt; claws slender.

CHIVES. Threads 6; as long as the cup; the 4 opposite ones rather longer than the other 2. Tips simple.

POINT. Seed-bud egg-shaped. Shaft thread-shaped; as long as the cup. Summit blunt.

S. VESS. Pouch inversely egg-shaped; somewhat compressed; entire; rigid; terminated at the point by a rigid conical shaft. Valves 2. Some of the cells often empty.

SEEDS roundish.

ESS. CHAR. Pouch terminated by a conical shaft; a single seed generally contained in only one of the cells.

OBS. Cochlearia Coronopus accords with the above character. ST.

MY'AGRUM *fati'vum*. Pouches inversely egg- common shaped, on fruit-stalks, containing many feeds.*—

Trag. 655, cop. in Lonic. i. 154. 1.—Ger. 213. 2.—Dod. 532.

1, repr. in Lob. obs. 111. 3, ic. i. 224. 2, Ger. em. 273. 3,

and cop. in Park. 868. 2, Pet. 48. 11, and abridged in H. ox.

iii. 21. row 3. 2.—J. B. ii. 392, cop. in H. ox. iii. 21. row 2.

1. f. 4.—Matth. 1172.

Pouch, each side bellying out, but marked with a cavity pressed inwards, which cavity disappears in the cultivated plants. LINN.

—Bloss. pale yellow, or white. Seeds yellow. Stem clothed with leaves, cylindrical below, somewhat angular above, slightly hairy.

Leaves alternate, spear-shaped, arrow-shaped at the base, half embracing the stem, slightly toothed, hairy. Bloss. yellow. Pouches on long fruit-stalks, terminated by a long shaft; partition extending

* On this account WIGGERS refers this species to *Alyssum*, REICH. after the example of Haller and Tournefort, but the *Tblastri* is equally variable in point of number. ST.

beyond and forming a strong ridge round the pouch. Mr. Woodward.—*Bloss.* pale yellow, or white. *Seeds* yellow.

Gold of Pleasure.

Corn fields; among Flax often plentifully, but apparently imported along with it from foreign countries. Near Bridport and Lyme in Dorsetshire. [Heydon, Norfolk. REV. MR. BRYANT.]

A. May. June.

It is cultivated in Germany for the sake of the expressed oil of the seeds, which the inhabitants use for medicinal, culinary, and æconomical purposes. The seeds are a favourite food with Geese.

Horses, Cows, Goats, and Sheep eat it.

861. VEL'LA. Cresset.

EMPAL. *Cup* 4 leaves; upright; cylindrical; strap-shaped; blunt; deciduous.

BLOSS. 4 *petals*; forming a cross; inversely egg-shaped; expanding. *Claws* as long as the cup.

CHIVES. *Threads* 6; as long as the cup; the 4 opposite ones a little longer than the other 2. *Tips* simple.

POINT. *Seed-bud* egg-shaped. *Shaft* conical. *Summit* simple.

S. VESS. *Pouch* globular; entire. *Cells* 2. *Partition* twice as large as the pouch; the part extending beyond the pouch egg-shaped and upright.

SEEDS several; roundish.

ESS. CHAR. *Pouch* with a partition twice as large as the valves; the part extending beyond the pouch egg-shaped.

annual VEL'LA *an'nua*. Leaves with winged clefts. Pouches pendant.—

Clus. ii. 130. 1, repr. in *Lob. obs.* 102. 3, in *ic.* i. 205. 2, *Ger. em.* 247. 4, and cop. in *Park.* 830. 2, and abridged in *J. B.* ii. 920, and *Pet.* 50. 5.—*Trew pl. rar.* but almost climbing.

Stem branched, hairy. *Leaves*, segments strap-shaped, toothed, hairy. *Petals* white, with deep purple veins. *Pouches* hairy, egg-shaped, terminated by the extension of the partition. Mr. Woodward.—*Pouches*, valves with 3 longitudinal ridges, the ridges beset with hairs; the seams smooth. *St.*—*Bloss.* pale yellow.

Cresset Rocket.

On Salisbury plain, not far from Stonehenge. RAY. A. June.

863. SUBULARIA. Awn-wort.

EMPAL. *Cup* 4 leaves; egg-shaped; concave; a little expanding; deciduous.

BLOSS. 4 *petals*; forming a cross; inversely egg-shaped; entire; rather larger than the cup.

CHIVES. *Threads* 6; shorter than the blossom; the 2 standing opposite still shorter. *Tips* simple.

POINT. *Seed-bud* egg-shaped. *Shaft* very short. *Summit* blunt.

S. VESS. *Pouch* inversely egg-shaped; somewhat compressed; entire; furnished with a very short shaft. *Cells* 2. *Partition* placed in a contrary direction to the valves, which are egg-shaped and concave.

SEEDS several; very minute; roundish.

ESS. CHAR. *Pouch* entire; egg-shaped; *valves* egg-shaped; concave; contrary to the partition. *Shaft* shorter than the pouch.

SUBULARIA aquatica.—

water

Fl. dan. 35.—*H. ox.* viii. 10. 29, *cop. in Pet.* 48. 8.—*Pluk.* 188. 5.—(*Ray ed.* I. 2. at p. 1, is *Isoetes lacustris.*)

Flourishes and blossoms under water. LINN.—*Leaves* green, semi-cylindrical, full of pith. *Bloss.* white. *Seeds* yellow. RAY.

Grows under water on a gravelly bottom in Lough Neagh, Ireland, on the side next Kilmore. RAY.—Loch Tay and Loch Carran, Scotland. Mr. STUART.—In lakes on the mountains near Llanberrys. HUDS.—And Llyn y Cwn, near Snowdon. PENN.

A. July.

864. DRA'BA. Whitlow-grafs.

EMPAL. 'Cup 4 leaves; egg-shaped; concave; open; somewhat upright; 'deciduous.

BLOSS. 4 petals; forming a cross; oblong; rather expanding. Claws very small.

CHIVES. Threads 6; as long as the cup; 4 opposite ones a little longer than the other 2; upright-expanding. Tips simple.

POINT. Seed-bud egg-shaped. Shaft very short. Summit a flat knob.

S. VESS. Pouch oblong-oval; compressed; entire; without a shaft. Cells 2. Partition parallel to the valves; valves flat; but a little concave.

SEEDS many; small; roundish.

ESS. CHAR. Pouch entire; oval-oblong; valves flattish; parallel to the partition. Shaft none.

common DRA'BA *ver'na*. Stalks naked. Leaves somewhat ferrated. LINN.—Petals divided. Leaves often very entire. ST.*

Curt. i. 2.—Thal. 7. E.—Walc.—Ded. 112. 2, repr. in Lob. obf. 249. 2, ic. i. 469. 1, Ger. cm. 624. 1, and cop. in Park. 556. 3, and also in Ger. 499. 1, leaves rounded.—Pet. 43. 6 and 7. —J. B. ii. 937. 2.—Seguier. i. 4. 3. at p. 328.

Flowers hanging down at night. Petals divided. LINN.—Stalks smooth after flowering, but hairy when young. Leaves hairy. Flowers when in blossom in broad topped spikes, about 15 in each. Empalement a little hairy. Threads pale green, but white and enlarged at the base. WITH.—Chives, it is difficult to find the full complement when the flower is fully expanded, as they drop when the seed-bud begins to enlarge.

Common Whitlow-grafs. [Nailwort. ST.]

Walls and dry places, and pastures.

A. Mar. Apr.

One of our earliest flowering plants. It is good as a salad.

Goats, Sheep, and Horses eat it. Cows are not fond of it. Swine refuse it.

* *Petalis bipartitis*, to distinguish it from *D. alpina*, as the leaves of *D. verna* are very frequently without any serratures. Add to the character of *D. alpina*, *petalis emarginatis*. ST.

DRA'BA mura'llis. Stem branched. Leaves egg-shaped, fitting, toothed.— *speedwell-leaved*

Barr. 816.—*Bauh. pr.* 50, *cop. in Park.* 843. 13, and *H. ox.* iii.

20. 5.—*J. B.* ii. 939. 1, *cop. in Pet.* 48. 5.

Fruit-stalks horizontal when the fruit is ripe, longer than the pouches. *Pouches* nearly slanting. *Flowers* white. LINN.—*Root-leaves* entire at the base, toothed upwards. *Pouches* exactly elliptical, ending in a short blunt knob which is the summit. Mr. WOODWARD.—*Stem* and *leaves* hairy. *Stem-leaves* rather heart-shaped. *Petals* very slightly notched at the end. WIRTH.—*Seeds* reddish brown. SR.

Fissures of rocks, mountainous and stony pastures especially in a calcareous soil, in Derbyshire, Yorkshire, and Westmoreland. Arncliffe Scar, near Arncliffe Littendale and Malham Cove. CURT. A. May.

DRA'BA inca'na. Stem-leaves numerous, hoary. *wreathen-podded*
Pouches oblong, slanting, fitting.—

Fl. dan. 130, *in flower.*—*Pet.* 48. 3.—*Fluk.* 42. 1, *in fruit.*

Root a hand's breadth long. *Root-leaves* very numerous, disposed in a rose-like form, spear-shaped, cottony and somewhat hairy, entire, pointed; *stem-leaves* often upwards of 30, fitting, marked with a few teeth, similar to the root-leaves, but shorter, the uppermost egg-shaped, on the lower part of the stem more crowded. *Stem* a hand's breadth long, straight, hoary, clothed with leaves. *Flowers* in a small terminating flat-topped spike, which, when the fruit is ripe, becomes a bunch. *Petals* white, slightly notched. *Pouches* upright, egg-oblong, bent contrary to the sun, compressed, naked. *Fruit-stalks* hoary, 3 times shorter than the pouches, stiff, approaching to the stem. It flowers with the *Anemone*. LINN.—*Stems* 6 to 9 inches, slightly cottony, simple, crooked. *Leaves* oval, spear-shaped, a little hairy, the lower slightly, the upper deeply toothed. *Fruit-stalks* nearly as long as the pouches. *Pouches* spear-shaped, smooth, twisted, terminated by the blunt summit. Mr. WOODWARD.

Fissures of limestone rocks, and moist mountainous meadows, in Yorkshire, Westmoreland, and Caernarvonsh.—About Settle. CURT.—[Rock near the summit of Ingleborough on the west side. Mr. WOODWARD.] B. May. June.

Goats eat it. Cows are not fond of it.

β. HUDS.—*Pet.* 43. 4.

865. LEPID'IUM. Dittander.

EMPAL. Cup 4 leaves; egg-shaped; concave; deciduous.
BLOSS. 4 petals; forming a cross; inversely egg-shaped;
twice as long as the cup. Claws narrow.

CHIVES. Threads 6; awl-shaped; as long as the cup; the
2 opposite ones shorter than the others. Tips simple.

POINT. Seed-bud egg-shaped. Shaft simple; as long as
the chives. Summit blunt.

S. VESS. Pouch somewhat heart-shaped; slightly notched
at the end; compressed; sharp at the edge. Cells 2.
Partition spear-shaped. Valves boat-shaped; keeled.

SEEDS several; egg-shaped; tapering; narrow at the
base; inclining downwards.

ESS. CHAR. Pouch notched at the end; heart-shaped; with
many seeds; valves keeled; contrary to the partition.

Obs. In *L. rudérale* there is only 1 seed in a cell. ST.

mountain

LEPID'IUM *petraeum*. Leaves winged, very entire.
Petals notched at the end, smaller than the empalement.

Jacq. fl. ii. 131.—Crantz. i. 2. 4, in its earlier state; 5, a bunch
in fruit.—(Fluk. 206. 4, is *L. alpinum*, and Pet. 50. 4, seems to
be the same.)

One of our smallest delicate plants. LINN.—Leaves dark green;
leaflets elliptical, tapering each way, on leaf-stalks, very entire,
thickish, from 6 to 12 pairs, with an odd one. Flowers in close
broad-topped spikes, which, as the fruit ripens, lengthen out into
bunches. Petals spatula-shaped, white, as long as, and narrower
than the empalement, generally very entire, but sometimes im-
perfectly nicked at the end. Pouches broad-egg-shaped, blunt,
convex underneath, flat above; valves keeled. JACQ. ST.—Stem
branched from near the root. Leaflets spear-shaped, horizontal,
just sensibly broader than the mid-rib. ST.

Rocks, walls, and stony places. St. Vincent's Rock, on the
low rocks over against Goram's Chair, and on the walls about
Bristol. Uphill, Somersetshire.

A. Apr. May.

procumbent

LEPID'IUM *anglicum*. Chives 2. Petals 4. Leaves
with winged clefts. Stem trailing, hairy. HUDS.—Chives
sometimes 4. HUDS. descr.

Root annual, branched. Stems several, herbaceous, a foot high,
3-cornered, branched, leafy. Branches alternate, long. Leaves
alternate, sitting, naked: segments mostly opposite, pointed,
ferrated,

ferrated, chiefly along the upper edge, with 2 or 3 teeth. *Flowers* very small, white, scattered, on fruit-stalks. *Fruit-stalks* long, horizontal. *Bunches* lateral, simple, opposite the leaves, longer than the leaves, hairy. *Empal.* leaves egg-shaped, concave, falling off, thin at the edge. *Petals* equal, egg-shaped, somewhat shorter than the empalement. *Threads* opposite, awl-shaped, longer than the empalement. *Tips* roundish, large, simple, yellow. *Seed-bud* inversely heart-shaped. *Shaft* very short. *Pouch* slightly cloven, lobes roundish compressed, wrinkled; *valves* boat-shaped; *partition* spear-shaped. *Seeds* solitary, kidney-shaped, pointed at each end, brown. **Huds.**

Obs. This plant seems to be the *L. bonariense*, but is not to be confounded with the *Thlaspi bonariense*, *Ec. Dill. cith.* 281. t. 280. p. 370, the leaves of which are strap-shaped and ferrated. **Huds.**—If the same with Linnæus's *L. bonariense*, the name ought not to have been changed. But Dillenius's figure accords with the Linnæan character, and is said by Crantz to be an elegant one. Linnæus, therefore, cannot surely have erred in asserting the fig. of Dillenius to be his *bonariense*. Add to this, that the leaves of Dillenius's figure cannot, with propriety, be described as “line-aria ferrata.” **St.**

Lepidium diadymum, which see. **Mr. Woodward.**

On rubbish about Exeter; and Truro and Penryn, Cornwall.

B. Huds. (but in his descr. *A.*) June. July.

LEPID'IUM latifolium. Leaves egg-spear-shaped, common sennetire, ferrated.—

Fl. dan. 557.—*Fuchs.* 434, cop. in *J. B.* ii. 940. 1, and abridged in *Trag.* 83.—*Matth.* 609.—*Dod.* 716. 1, repr. in *Lob. obj.* 172. 4, ic. i. 318. 2, *Ger. em.* 241. 2, and cop. in *Park.* 855. 1, and *H. ox.* iii. 21. row 2. 1.—*Blackw.* 448.—*Lonic.* i. 161.—*Ger.* 187. 2, cop. in *Pet.* 43. 10, with parts of fructification.—*J. B.* ii. 940. 2.

Lossens white, numerous, terminating.

Bitander Pepperwort. *Poor-mans* Pepper.

Meadows and pastures. Hythe, near Colchester; Heybridge, near Malden; and marshes near Grays, in Essex; Sheringham Cliffs, Norfolk; and between Beningborough and Mitton in the North Riding of Yorkshire. **P.** June. July.

This is one of the acrid anti-scorbutics, and was formerly used in the place of *Horse-radish*. An infusion of it vomits. **Wirt.**

LEPID'IUM diu'ynum. Leaves with winged clefts. double podded Stem upright. Fruit double.—

Stems

Stem a foot high, smooth. *Leaves* winged, wings fitting, alternate, spear-shaped, toothed on the fore edge. *Bunches* from the bosom of the leaves, as long as the leaves. *Flowers* very minute. *Capsules* roundish, double, somewhat wrinkled. An intermediate plant between the *Cochlearia*'s and *Lepidium*'s. LINN.—It certainly more nearly approaches the genus *Cochlearia*, as the pouches are but slightly compressed, and very blunt at the edge. MR. WOODW.—*Stems, branches, and fruit-stalks* hairy. *Leaves* smooth. ST.

Cochlearia didyma. CURT. cat. n. 270.—*Lepidium anglicum*. HUDS. which sec. (MR. WOODWARD.)

[Near Exeter. MR. NEWBERRY.]

A. June.

narrow-leaved

LEPID'IUM *ruderalle*. Chives 2. Petals none. Root-leaves toothed and winged, those of the branches strap-shaped, very entire. LINN. POLLICH.—*Petals sometimes found*, HALL. SCOP. GOUAN, and sometimes 4 chives. GOUAN.

Trag. 83. 2.—*Fl. dan.* 184, in its earlier state.—*Matth.* 608.—*Dod.* 713. 1, repr. in *Lob. ic.* i. 214. 1, *Ger. em.* 262. 4, and cop. in *Park.* 829, *H. ox.* iii. 19. row 2. f. 3, and abridged in *Pet.* 50. 1.—*Fuchsf.* 307, cop. in *J. B.* ii. 914.

Stem usually crooked, wood-like, stiff. *Leaves* fleshy, smooth. *Fruit-stalks* slender. *Pouches* numerous, small, much compressed. MR. WOODWARD.

Iberis, sive Lepidium. *Matth.* 608. (ST.)

On rubbish, and on the sea coast. Maldon, Essex; Yarmouth, Lynn, and Clay, Norfolk; Truro, Cornwall. [Salt marshes near Yarmouth, Norfolk, plentifully. MR. WOODWARD—Rubbish on the side of the Severn above Worcester. ST.] B. June. July.

866. THLAS'PI. Shepherds-purse.

EMPAL. Cup 4 leaves; egg-shaped; concave; nearly upright; deciduous.

BLOSS. 4 petals; forming a cross; inversely egg-shaped; twice as long as the cup. Claws narrow.

CHIVES. Threads 6; half as long as the blossom; the 2 opposite ones shorter than the others. Tips tapering to a point.

POINT. Seed-bud circular; compressed; notched at the end. Shaft simple; as long as the chives. Summit blunt.

S. VESS. Pouch compressed; inversely heart-shaped; notched at the end; the depth of the notch being equal to the length of the shaft. Cells 2. Partition spear-shaped. Valves boat-shaped.

SEEDS many; inclining; fixed to the seams.

ESS. CHAR. Pouch notched at the end; inversely heart-shaped; with many seeds; valves boat-shaped, keeled, and bordered.

OBS. In the *T. Bursa pastoris* the pouch has no border. LINN.—In the *T. campestris* there is only 1 seed in each cell. ST.

THLAS'PI *arven'se*. Pouches round and flat. Leaves Treacle oblong, toothed, smooth.—

Lutw. 173.—Fl. dan. 793.—Blackw. 68.—Math. 567.—Ger. 204. 1.—J. B. ii. 923.—Sheldr. 105.—Dod. 712, repr. in Lob. obs. 108. 1, ic. i. 212. 2, Ger. em. 262. 1, and cop. in Park. 836. 1, H. ox. iii. 17. 12, and abridged in Pet. 50. 9.

Leaves arrow-shaped at the base, embracing the stem. Pouches deeply notched. Mr. WOODWARD.—Stem about 2 feet high, with 7 or 8 membranaceous edges. Leaves arrow-shaped at the base. Seeds pear-shaped, but compressed, hanging or pointing downwards. Bloss. white. WITII.

Treacle Mustard. Penny-cress.

Corn fields, especially in a muddy soil. A. June. July.

The whole plant has something of a garlick flavour. The seeds have the acrimony of mustard. When Cows eat it their milk gets a bad taste.

Cows, Goats, and Swine eat it. Sheep and Horses refuse it.

THLAS'PI *hir'tum*. Pouches roundish, hairy. hairy Stem-leaves arrow-shaped, woolly.—

G.B.

C. B. pr. 47, cop. in Park. 836. 6, and improved in Pet. 50. 10.

—*J. B. ii. 922.*

Stem downy. *Root-leaves* oval, rather naked, slightly fringed; *stem-leaves* half embracing the stem, woolly, very soft. *Empalement* white. *Petals* white, inversely egg-shaped, entire. LINN.—Habit that of the *T. campestre*, but the *pouches* woolly. HUDS. ST.—*Pouches* longer than those of *T. campestre*. RAY. ST.—Our plant is merely a variety of *T. campestre*. The *T. hirtum* is a different plant. MR. WOODWARD.

Mountainous situations in Wales and elsewhere. RAY.

P. RAY. B. LINN. July.

Mithridate THLAS'PI *campestre*. *Pouches* roundish. *Leaves* arrow-shaped, toothed, hoary.—

Curt. v. 51.—Ger. 204. 2, cop. in Pet. 50. 7.—Fuchf. 306, cop. in J. B. ii. 921. 1, and Trag. 87.

Leaves very soft, and almost velvety. LINN.—*Stems* many from the same root, thickly cloathed with leaves. *Leaves* growing without order. In some situations it is green and slightly hairy, in others very downy and white, and is the *T. hirtum* of the Fl. angl. MR. WOODWARD.—*Stem* cloathed with leaves, undivided, except at the top, where it separates into 7 or 8 branches, above the branches naked. *Root-leaves* spear-egg-shaped on long flat leaf-stalks. *Fruit-stalks* horizontal. *Pouches* nearly heart-shaped, smooth, convex on the lower, and concave on the upper surface. *Root-leaves* lyre-shaped and indented. *Bloss.* white. *Cups* with brown spots. WITH.

Mithridate Mustard. Bastard Cress.—Corn fields, sunny situations, in a clayey and sandy soil. B. June. July.

Goats and Swine eat it. Sheep and Horses refuse it. Cows are not fond of it.

β. *Leaves* smooth, scarcely ferrated; those at the root not indented. LIGHTF. REICH.

*Blackw. 407.—Dod. 713. 3, repr. in Lob. obs. 108. 2, ic. i. 213. 1, Ger. em. 262. 2, and cop. in Park. 836. 2, Pet. 50. 3, and H. ox. iii. 17. 14.—Matth. 566.—(Matth. 567, is *T. arvense*, and H. ox. iii. 13, is a different species.)*

Leaves smooth, broader than α and not so tapering to a point. *Pouches* smooth. RAY.

Thlaspi vaccarice folio glabrum. R. syn. 305.—*T. glabrum.* Pet. 50. 8. (ST.)

Between Backley and Bungay, Suffolk. RAY.

mountain THLAS'PI *montanum*. *Pouches* inversely heart-shaped. *Leaves* smooth. *Root-leaves* somewhat fleshy, inversely

inversely egg-shaped, very entire. Stem-leaves embracing the stem. Blossoms larger than the empalements.—

Jacq. fl. iii. 237.—Clus. ii. 131, repr. in Ger. em. 268. 6. b, and cop. in J. B. ii. 926.—Ger. 210. 5.—Crantz. i. 3. 1?—(Lob. ic. i. 219. 1, repr. in Ger. em. 268. 6. a, and cop. in Park. 842. 2, and Ger. 210. 6, are said by C. B. to be only a variety, but the pouches are spear-shaped.)

Petals nearly equal. It is distinguished from the *Iberis* by having the fruit and habit of *Thlaspi*. LINN.—Root creeping. RAY.—Pouch convex underneath, more or less concave above, with the remaining shaft. JACQ.—Root-leaves large, smooth, tapering down into leaf-stalks. Mr. WOODWARD.

Mountainous pastures. About the ebbing and flowing well near Settle, between Malham and Settle. RAY.—Here I sought for it in vain, but found it on the road from Settle to Malham, within about half a mile of the Tarn. CURT.—On Ingleborough, Yorkshire. RAY, [Mr. WOODWARD,] and in the Peak of Derbyshire. HUDS. B. or P. June. July.

THLASPI *alpestre*. Pouches inversely heart-shaped. Leaves somewhat toothed; those of the stem embracing the stem. Petals as long as the blossom. Stem simple.—

Clus. ii. 131. 2, repr. in Ger. em. 268. 7, and cop. in Park. 837. 8, and also in Ger. 210. 7, as growing wild.—Pet. 50. 12, as cultivated.

Gerard (*prov.*) and Jacquin consider this and the *perfoliatum* as one and the same plant; Haller as distinct. Bloss. very small, white. Chives longer than the flower. LINN.—Stem quite simple, upright. On being cultivated in a garden it became much smaller, but was perennial and evergreen, and threw up several stems from the same root, some upright, others spreading. GOUAN.—Stem in mountainous situations upright and simple; in gardens or a richer soil branched. Leaves, the lowermost egg-shaped. To examine whether it may not be the *T. perfoliatum*. HUDS.—The shaft of the *T. perfoliatum*, according to Haller, is very short, which I have found to be true; that of the *T. alpestre* a line in length. Let those who have an opportunity of examining specimens of our plant in its native place of growth ascertain to which species it belongs. ST.

Thlaspi perfoliatum minus. R. syn. 305. (ST.)

Mountainous meadows and pastures, and stony places in a calcareous soil. Stone Pits between Witney and Burford, Oxfordsh. Pastures above the ebbing and flowing well 2 m. from Grislewick, Yorksh. and in Westmorel. and Cumberl. RAY. A. June. July.

THLASPI

common

THLAS'PI *Bursa pasto'ris*. Pouches inversely heart-shaped. Root-leaves with winged clefts. LINN.—Pouches not bordered.* Root-leaves sometimes entire. ST.

Ludw. 186.—Curt. i. 9.—Blackw. 5.—Dod. 103. 1, repr. in Lob. obs. 110. 1, ic. i. 221. 1, Ger. em. 276. 1, and abridged in H. ox. iii. 20. row 1. 2, and Pet, 49. 4.—Pet. 49. 5 and 6.—Cer. 214. 1.—Fuchf. 611, cop. in Trag. 215, and J. B. ii. 936.—Lonic. i. 139. 1, cop. in Park. 866. 1.—Matth. 569.

Stem about a foot high, upright, somewhat angular, a little branched. Root-leaves numerous, somewhat hairy, segments serrated, pointed; stem-leaves fitting, embracing the stem, oblong, narrower about the middle, arrow-shaped at the base, serrated or indented, pointed. Flowers white. Glands 4, within the chives. Shaft permanent. LYONS.—Root-leaves, in cultivated ground the segments broader, on walls and in dry situations more deeply divided, and the segments much narrower. CURT.—Leaves fringed with fine hairs; stem-leaves, the upper entire, strap-spear-shaped, embracing the stem. Bunches long, flattened at the top, terminating. Empalement hairy. Petals entire. Summit circular, fringed, concave. Chives, the 2 shorter bend out so as to stand between the blossom and the empalement. Tips a little woolly. Seed-bud egg-shaped, compressed, with a channel down the middle. Blossoms white. WITH.

Shepherds Purse. Shepherds Pouch.

Among rubbish, road sides, walls, corn fields. A. March to Sept. HUBS. more or less all the year. CURT. ST.

This plant is a strong instance of the influence of soil and situation, for it grows almost every where, and sometimes is not more than 2 inches high when it flowers and perfects its seeds; whilst in other situations it attains the height of 2 or 3 feet. LINN.—Like many others of this class it begins to blossom long before it has attained to its full size, and continues to produce flowers and seeds while it is advancing to maturity. Hence we sometimes find it producing flowers and seeds when not more than 2 inches high, though when full grown, and in a favourable situation, it rises to 2 or 3 feet. ST.—Horses, Cows, Goats, Sheep, and Swine eat it. β. Smaller.

Pet. 49. 6.—Ger. 214. 2.

Bursa pastoris media. BAUH. pin. 108.—*Bursa pastoris minima*. GER. 214. (ST.)

* *Siliculis margine destitutis*, the generic character of Tournefort affords the best specific distinction. ST.

γ. Root-leaves entire. LIGHTF. ST.

Pet. 49. 7.

In the younger plants it is not unusual to find the leaves undivided, and the empalement hairy. Bot. Arr. ed. i.—Root-leaves sometimes spear-shaped, toothed. Mr. WOODW.—The *Papilio Cardamine*, and *Phalena Pronuba*, feed upon the different species.

867. COCHLEA'RIA Scurvy-grafs.

EMPAL. Cup 4 leaves; egg-shaped; concave; opening; deciduous.

BLOSS. 4 petals; forming a cross; inversely egg-shaped; expanding; twice as large as the cup. Claws narrow; shorter than the cup; open.

CHIVES. Threads 6; awl-shaped; as long as the cup; the 2 opposite ones shorter than the others. Tips blunt; compressed.

POINT. Seed-bud heart-shaped. Shaft simple; very short; permanent. Summit blunt.

S. VESS. Pouch heart-shaped; hunched; a little compressed; slightly notched at the end; furnished with a shaft; rough; blunt at the edge. Cells 2.

SEEDS about 4 in each cell.

ESS. CHAR. Pouch notched at the end, turgid, rough; valves hunched, blunt.

COCHLEA'RIA *officinalis*. Root-leaves heart- common circular; stem-leaves oblong, a little indented.—

Ludw. 133.—Fl. dan. 135.—Blackw. 227.—Pet. 49. 1.—J. B. ii. 942.—Dod. 594. 1, repr. in Lob. obs. 156. 4, ic. i. 293. 2, Ger. em. 401. 1, and cop. in Park. 283. 2, H. ox. iii. 20. 1, and also in Ger. 324. 1.

Stem branched. Root-leaves heart-shaped, blunt, entire, with 7 minute, callous, imperfect scollops; stem-leaves embracing the stem, with a tooth on each side near to the side of the stem. LINN.—Root-leaves kidney-shaped, entire, veined, on long leaf-stalks; stem-leaves oblong, fitting, slightly toothed, and in the specimen gathered as mentioned below, much larger than the root-leaves. Fruit-stalks long, slender, expanding, sometimes bent back. Pods, shaft hardly discernible. Mr. WOODWARD.—Stem angular. Root-leaves on long leaf-stalks, heart-kidney-shaped, fleshy; stem-leaves fitting, the lower sometimes on short broad leaf-stalks. Petals fleshy, clear white; claws greenish. Chives, the 2 opposite ones

$\frac{1}{4}$ th shorter. *Tips* yellow. *Pouch* either not notched at the end or scarce sensibly so, smooth; *partition* double. *Seeds* rough. WINTER. *Scurvy-grass*. *Scrooby-grass*.

Sea shores, especially on those of Cumberland and Lancashire, where it grows on bare rocks shooting out from the fissures of the stone; also near little rills running down the sides of hills at a great distance from the sea as near Castleton, Derbyshire, Penignt and Ingleborough, and on Stanemore, Yorkshire, near the Spittle. RAY.—Cornwall, frequent. HUDS.—Rocks on the coast of Scotland, and on the Highland mountains abundantly. LIGHTF.—By the River Ribble near Settle. CURT.—[Marshes near Yarmouth. Mr. CROWE.—On a mountain at the head of Coniston Water, Lancashire. Mr. WOODW.—Castleton, Derbysh. on the side of the hill on which the castle stands. ST.]

A. B. LINN. HUDS. A. MILL. Apr. May.

Notwithstanding this is a native of the sea coast, it is cultivated in gardens without any sensible alteration of its properties. It possesses a considerable degree of acrimony, and this acrimony seems to reside in a very subtle essential oil. Its effects as an anti-scorbutic are universally known; and it is a powerful remedy in the puitious asthma, and in what Sydenham calls the scorbutic rheumatism. A distilled water, and a conserve, are prepared from the leaves, and its juice is prescribed along with that of oranges, by the name of anti-scorbutic juices. It may be eaten as a salad.

Cows eat it. Horses, Goats, and Sheep refuse it.

β . HUDS. Similar to α but smaller, the leaves, especially the stem-leaves, angular. RAY.

C. minor rotundifolia nostras. R. syn. 303.

Coast of Anglesea about Beaumaris, and coast of Caernarvonshire. RAY.

γ . HUDS. Leaves kidney-shaped, fleshy, very entire. LINN.

Barth. æt. iii. t. 144, I have not seen.

Root-leaves very small, underneath very convex and fleshy, without veins, very entire, on long leaf-stalks. LINN.—The *Cochlearia* which grows on the mountains of Wales, Derbyshire, Yorkshire and Westmoreland, of which I have now plants in my garden from Wales and Craven, yearly sow themselves, and have continued the same for above 10 years. RICHARDSON in *R. syn.*—The same is confirmed in Mr. Sherard's garden at Eltham. DILL. *il*.—Miller also, who from his manner of speaking appears to have cultivated it, speaks of it as a distinct species, and says it is biennial, but that the *C. officinalis* is an annual. ST.—From the specimens I have seen I suspect it to be only a starved variety of *C. officinalis*. LIGHTF.—My specimens above mentioned seemed to answer equal

IV. CHIVES LONGER, S. VESS. a POUCH.

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equally to the descriptions of *G. groenlandica* and *officinalis*, except that the leaves are veined. Mr. WOODWARD.

G. groenlandica. LINN. MILL.

Mountains of Caernarvonshire; about Llanberys, plentifully. HUDS.—Mountains near Settle. CURT.

A. LINN. HUDS. B. MILL.

COCHLEA'RIA *da'nica*. Leaves halberd-shaped *Danish* or angular, all of them trowel-shaped.*—

Fl. dan. 100.—*Lob. obs.* 338. 1, repr. in *ic.* i. 615. 2, *Ger. em.*

271, and cop. in *Park.* 848. 1, *J. B.* ii. 939. 2; abridged in *H.*

ox. iii. 20. 3, and improved in *Fct.* 49. 3.

Stem not branched, as in *G. officinalis*. Suckers trailing. All the leaves halberd-shaped, or egg-shaped with an angle on each side of the base. Leaf-stalks not toothed at the base, or embracing the stem. Capsules egg-shaped. LINN.—Stems numerous. Mr. WOODW.—Bloss. white.

Thlaspi hederaceum. *Ger. em.* 271. *Park.* 848. (ST.)

Sea shores. Isle of Walney, Lancashire, and near Llanbadrick church, Anglesea. RAY.—[Wells, Norfolk. Mr. CROWE.]

B. LINN. HUDS. A. MILL. May. June.

Cows eat it. Horses, Goats, and Sheep refuse it.

COCHLEA'RIA *ang'lica*. All the leaves egg-spear-shaped. LINN. ST.—and indented. HUDS.—Root-leaves spear-shaped; stem-leaves somewhat indented. MILL. *English*

Fl. dan. 329, in flower and fruit, excellent. Mr. Lightfoot says not good.†—*Blackw.* 218, in flower.—*Dod.* 594. 2, repr. in *Lob. obs.* 157. 1, *ic.* i. 294. 1, *Ger. em.* 401. 2, and cop. in *Park.* 285. 1, and abridged in *H. ox.* iii. 20. row 3. 2, and cop. also in *Ger.* 324. 2, in flower, all the leaves indented; and yet Mr. Lightfoot speaks of these as being nearest to nature. Mr. Lightfoot's specimens I conclude to have leaves more deeply indented than usual, mine entire leaves.‡

Root-leaves spear-shaped; stem-leaves sitting. LINN.—Is it not a variety of the *G. officinalis*? HUDS.—Even the lowermost leaves angular, or indented; RAY—many of them are not at all indented.

* "*Omnibus deltoidibus*," is a sufficient character, free from confusion or tautology. ST.

† Has neither the foliage nor habit of our plant. Mr. WOODWARD.

‡ *Dod.* and its copies more exactly resemble our plant, but the stem-leaves are not so deeply notched or toothed. Mr. WOODWARD.

LIGHTF.—Hence it should seem that there are 2 varieties, one with indented, the other with entire *leaves*. In my specimens the *root-leaves* are oval, very entire, and the *stem-leaves* slightly angular. *Pouches* elliptical, with a very short shaft. **ST.**—*Pouches* roundish-oval. **Mr. WOODWARD.**—*Stem-leaves* arrow-shaped at the base, embracing the stem. *Pouches* roundish, fleshy, much larger than those of *C. officinalis*, and terminated by a longer shaft about 2-3rds of a line in length. **Mr. WOODWARD.**

Spoonwort.

Sea shores, in muddy soil. Salt marshes, Kent and Essex, where the salt water overflows it every tide. **MILL.**—[At Yarmouth, **Mr. CROWE**—and on the coast abundantly. **Mr. WOODW.**—Isle of Wight, and King's Weston. **ST.**] **B. May.**

Can rarely be made to grow in a garden, or at least to last longer there *than one year*. **MILL.**—All the above species partake more or less of the properties of *C. officinalis*.

Swinefcrefs

COCHLEA'RIA *Coro'nopus*. Leaves with winged clefts. Stem depressed.—

Fl. dan. 202, just come into flower.—*Blackw.* 120.—*Ger.* 340. 2.
—*Dod.* 110, repr. in *Lob. obs.* 240. 1; *ic.* i. 438. 1, *Ger. em.* 427. 2, and *cop.* in *Pet.* 50. 6.—*H. ex.* iii. 19. 9.—*Tourn.* 102.
—*J. B.* ii. 919. 2.—*Matth.* 851, ill *cop.* in *Park.* 502. 5.—*Park.* 502. 2.

Stems prostrate. *Leaves*, segments spear-shaped, the outermost the largest. *Petals* white. *Capsules* hedge-hogged. **SCOP. ST.**—*Bunches* lateral, opposite the leaf. *Pouches* kidney-shaped; cells, each containing 1 seed. **POLLICH. ST.**—*Stems* compressed, often depressed along the middle. *Root-leaves* prostrate, longer than the branches; *leaflets* cut along the fore edge, very entire along the back edge, the terminating one strap-shaped, very entire. *Bunches* with flowers from the very base, and sometimes a solitary flower proceeds from the side of the stem, just below the insertion of the bunch. *Honey-cup*, glands 6, upright, green, blunt, as long as the tips; 4 of them oblong, compressed, at the base of the claws of the petals; the other 2 cylindrical, narrower, between the longer chives. *Tips* shedding their dust before the opening of the flower. *Pouch* kidney-heart-shaped, terminated by a short conical shaft, depressed on the sides, with furrows and sharp ridges running towards the edge, where they run out into sharpish points, one of the cells not unfrequently empty, in which case the fertile seed expands, filling up almost the whole of the seed-vessel, and the shaft is bent down towards the empty cell. In this last respect it accords with the *Myagrum*. **ST.**—*Bunches* from the bosom of the leaves. *Bloss.* white.

Swine

Swines Cresses.

On rubbish, road sides, [and dunghills. ST.] A. June.—Aug.
It is acrid, with something of the flavour of Sallad Cress.

COCHLEA'RIA *Armora'cia*. Root-leaves spear- *Horseradish*
shaped, scolloped; stem-leaves cut.—

Blackw. 415.—*Fuchs.* 660, *cop. in J. B.* ii. 852, *abridged in Lonic.*

i. 160. 1, and imitated with an addition in *Trag.* 734.—*Dod.*

678. 1, *repr. in Lob. obs.* 173, *ic. i.* 320. 1, *Ger. em.* 241. 1,

and *cop. in Park.* 860, and *Pet.* 49. 11.—*Ger.* 187. 1.—*Matth.*

442, *cop. in H. ox.* iii. 7. row 3. 2.

Blossoms white.

Horse-radish.—On rubbish and sides of ditches, about London;
Alnwick, Northumberland, banks of Skipton-beck, and else-
where in Bolland Craven. RAY. P. May.

The root scraped is in common use at our tables as a condiment
for fish, roast-beef, &c. and it is used for many other culinary
purposes. An infusion of it in cold milk, makes one of the safest
and best cosmetics. In paralytic and dropical cases it is an use-
ful stimulant and diuretic. A strong infusion of it excites vomit-
ing. A distilled water is prepared from it.

Horses, Cows, Goats, Sheep, and Swine refuse it.

The *Papilio Brassicæ* feeds upon the several species.

2. Root-leaves with deeply winged clefts. ST. Mr. Woodw. jagged

Pet. 49. 12.

COCHLEA'RIA *did'yma*. CURT. cat. n. 270. *double podded*
Mr. Woodward.

Lepidium didymum, which see.

868. I'BERIS. Candy-tuft.

EMPAL. *Cup* 4 leaves; inversely egg-shaped; concave; expanding; small; equal; deciduous.

BLOSS. 4 *petals*; unequal; inversely egg-shaped; blunt; expanding; the 2 *outer* ones very large; equal; the 2 *inner* small; reflected. *Claws* oblong; upright.

CHIVES. *Threads* 6; awl-shaped; upright; the 2 lateral ones shortest. *Tips* roundish.

POINT. *Seed-bud* roundish; compressed. *Shaft* simple; short. *Summit* blunt.

S. VESS. *Pouch* upright; nearly circular; compressed; notched at the end; encompassed by a sharp border. *Cells* 2. *Partition* spear-shaped. *Valves* boat-shaped; keeled; compressed.

SEEDS several; somewhat egg-shaped.

ESS. CHAR. *Blossoms* irregular; the 2 *outer petals* larger. *Pouch* with many seeds; notched at the end.

bitter I'BERIS *amara*. Herbaceous. Leaves spear-shaped, pointed, somewhat toothed. Flowers in bunches.—

Riv. tetr. 109, *Thlaspid. fol. Nasturtii*.—*J. B.* ii. 925. 1.—*Ger.* 205. 6, *ill cop. in Ger. em.* 263. 5, on the right hand.

Similar to *I. umbellata*, (the common Candy-tuft) but smaller.

LINN.

Corn fields about Henley, and other places in Oxfordshire.

Huds.

A. June. July.

It is cultivated in our gardens. ST.

naked I'BERIS *nudicaulis*. Herbaceous. Leaves indented. Stem naked, simple. LINN.—Sometimes with 2 or 3 oblong entire leaves. Huds. ST.

Dod. 103. 2, repr. in *Lob. ic.* i. 221. 2, *Ger. em.* 276. 2, and cop. in *Park.* 866. 3, and *J. B.* ii. 937. 1, and abridged in *Pet.* 50. 2.—*Fl. dan.* 323.—*Ger.* 194. 3, cop. in *Ger. em.* 251. 4, and *Park.* 828. 7.—*H. ox.* iii. 19. 5.

Stem upright, or trailing. Huds.—*Stems* numerous, with usually one fitting leaf below the middle. *Root-leaves* spread on the ground in a circle, smooth, with winged clefts, the terminating lobe large. *Fruit-stalks* long, slender, expanding. *Pouches* somewhat convex on one side, flat on the other, bordered with a projecting margin, and marked with a perpendicular line which is the edge of the partition. Mr. Woodward.—*Bloss.* white.

Nasturtium

Nasturtium petraeum. GER. em. 251, R. syn. 303.—*Bursa pastoris minima*. GER. em. 276. (ST.)

Rock Cress.

Gravelly places and very barren heaths. Near Hampton Court, Richmond and Barnes Commons. RAY.—Putney Heath. MILL.—Old stone pits by the side of Pensham Field, Worcestershire. NASH.—[About Norwich, frequent, Mr. PITCHF.—and Bungay, Suffolk. Mr. WOODW.—Between Corby Castle and Carlisle. ST.]

A. May.—July.

Order II.

SILIKUOSA; SEED-VESSEL a POD.

875. DENTA'RIA. Coralwort.

EMPAL. *Cup* 4 leaves; oblong-egg-shaped; parallel, but approaching towards the top; blunt; deciduous.

BLOSS. 4 *petals*; forming a cross; circular; blunt; slightly notched at the end; flat; ending in *Claws* as long as the cup.

CHIVES. *Threads* 6; awl-shaped; as long as the cup; 2 of them shorter. *Tips* oblong-heart-shaped; upright.

POINT. *Seed-bud* oblong; the length of the chives. *Shaft* very short and thick. *Summit* blunt; notched at the end.

S. VESS. *Pod* long; cylindrical; *cells* 2; *valves* 2; *partition* rather longer than the valves.

SEEDS many; somewhat egg-shaped.

ESS. CHAR. *Pod* opening elastically; the valves rolling back.

Summit notched at the end. *Empalement* approaching longitudinally.

DENTA'RIA *bulbifera*. Lower-leaves winged; bulbed the uppermost simple.—

Fl. dan. 361.—Clus. ii. 121. 1, repr. in Lob. ic. i. 687. 2, Ger.

em. 984. 1, and cop. in Park. 620. 1; and cop. also in Ger.

833. 1.

Bulbs produced from the bosom of the leaves as in the *Lilium bulbiferum*, and the fruit in the like manner abortive. LINN.—

Y y 4

Stem

Stem simple. *Leaves*, the lower with 3 pair of leaflets, and an odd one confluent with the pair beneath; leaflets bluntly spear-shaped, serrated; the upper with 3 clefts, or simple, acutely spear-shaped, serrated. *Flowers* flesh-coloured. *Bulbs* from the bosom of the upper leaves, scaly, which falling off take root, and produce new plants. It rarely produces seeds. MR. WOODWARD.—*Bloss.* white or reddish. *Bulbs* black.

Woods and shady places. Highreede and Foxholes Woods near Mayfield, Suffex. PARK.—Old Park Wood, near Harefield. BLACKST.—Woods between Beconsfield and Wickham. HUDS.

P. April. May.

Swine refuse it.

Chrysomela nemorum feeds upon it.

876. CARDAM'INE. Ladiesmock.

EMPAL. *Cup* 4 leaves; oblong-egg-shaped; blunt; rather open; hunched; small; deciduous.

BLOSS. 4 *petals*; forming a cross; oblong-egg-shaped; greatly expanded; ending in *Claws*, which are upright, and twice as long as the cup.

CHIVES. *Threads* 6; awl-shaped; the 2 opposite ones twice as long as the cup; the other 4 still longer than them. *Tips* small; oblong-heart-shaped; upright.

POINT. *Seed-bud* slender; cylindrical; as long as the chives. *Shaft* none. *Summit* a blunt knob; entire.

S. VESS. *Pod* long; cylindrical, but compressed. *Cells* 2. *Valves* 2; when they open rolling back in a spiral.

SEEDS many; roundish.

ESS. CHAR. *Pod* opening elastically; the valves rolling back.

Summit entire. *Empalement* somewhat gaping. LINN.—

Two honey-cup glands, 1 on each side, between the shorter chives and the empalement. HUDS.

OBs. In some species the 2 shorter chives generally wanting, and in others the petals. In the *C. petraea* the valves of the pods open at the base, but do not roll back.

* *Leaves simple.*

CARDAM'INE *bellidifolia*.* Leaves simple, egg-daisy-leaved? shaped, very entire. Leaf-stalks long.—

Fl. dan. 20.—*Jacq. misc.* i. 17. 2.—*Fl. lapp.* 9. 2.—(*Clus.* ii. 129. 2, repr. in *Ger.* 260. 8, and cop. in *Park.* 828. 6, *J. B.* ii. 870. 1, *H. ox.* iii. 4. 4, and *Pet.* 47. 9, formerly referred to in the *Sp. pl.* and also in the last edition of the *Fl. angl.* though expressly rejected in the 12th and succeeding editions of the *Syst. veg.* in which it is referred to *Arabis bellidifolia*, but more properly by Jacquin to his *A. pumila*, fl. iii. 281.)

Cardamine pumila Bellidis folio, alpina. *R. syn.* 300. (ST.)

Rocks and stony places. On the rock near the Quarry by Bath; in Denbighshire, and near Rippon. MERR.—St. Vincent's Rock near Bristol. Mr. NEWTON in *R. syn.*—About Denbighshire. *R. itin.*†
P. April. May.

CARDAM'INE *petræa*. Leaves simple, oblong, mountain toothed.—

Fl. dan. 366.—*Dill. elth.* 62. 71, large and small specimens, and f. 1, expressing the opening of the pods.—*Lightf.* 15. 2. at p. 347.—*Pluk.* 101. 3.—*Pet.* 50. 3.

Stem simple. Blossoms white. Pods, see observation on the genus.

Lofty rocks in Caernarvonsh. as Moelynhrudh near Pheftioniog, y Glogvryn, du y yr Ardhn Glogvryn, y Carnedh near Llanberys; and on moist rocks above the Lake Layn-du. P. May. June.

** *Leaves winged.*

CARDAM'INE *impatiens*. Leaves winged, cut; impatient with leaf-scales. Flowers without petals. LINN.—Leaf-stalks widening and toothed at the base. Leaflets spear-shaped, toothed. Flowers with and without petals. HUDS.

J. B. ii. 886. 1.—*Barr.* 155, the separate bunch and leaves.—*Ger. em.* 260. 7, cop. in *Park.* 1241. 4, *H. ox.* iii. 4. 1, and *Pet.* 47. 7.—*Barr.* 155.—(*Fl. dan.* 735, is a different species, as is evident from its leaflets being very entire. *Fl. dan.* 184, is *Lepid. ruderalis*.) Foreign

*† Mr. Curtis in his cat. very justly doubts its being a native. The only places of growth mentioned by Mr. Hudson are from Merret and Ray, who supposed their plants to be the *Plantula*, &c. of Clusius, mentioned above; and my friend, Dr. Broughton, in a letter, dated Nov. 15, 1783, informs me, that having repeatedly searched for it, in company with Mr. Ford, on St. Vincent's Rocks, but in vain, he was persuaded that either the *Turritis hirsuta*, or *Arabis Griffithi* of Hudson, both of which grow there in great abundance, had been mistaken for it. ST.

Foreign botanists describe it as having petals, but in our country, even though sown in a garden, I have never found more than a single flower which had a blossom with white petals, and larger than those of the *C. parvisfl.* and in other respects different. This I found in the year 1764. LINN.—*Root-leaves* often deeply cut. *General leaf-stalks* membranaceous at the base, sometimes cut. *Petals* oblong, white, hardly longer than the empalement, very soon falling off. HUDS.—*Stem* usually simple. *Stem-leaves* very numerous, growing without order, shortest towards the bottom of the stem; *leaflets*, 9 pair or more, oval-spear-shaped, or spear-shaped, deeply cut, the odd one usually 3-lobed, smallest towards the stem, and larger as they approach the end of the leaf. *Petals*, none in what I examined. *Pods*, the valves curling up, and throwing out the seeds with considerable force on touching the plant. Mr. WOODWARD.—*Stem* scored. *Leaflets* jagged, and microscopically hairy at the edges. *Leaf-scales* crescent-shaped, half embracing the stem. WITH.—*Petals* either in the unexpanded or expanded flowers. Specimens both wild and cultivated. *Leaflets* of the upper leaves sometimes entire, and strap-spear-shaped. ST.

Mountainous meadows on the sides of rivulets, on rocks and moist stony places, in Derbyshire, Yorkshire, and Westmoreland. Giggleswick Scar. [Rocks opposite Matlock Bath, Derbyshire. Mr. WOODW.—On loose earth thrown up from a quarry above Lench Ford, nearly opposite Shrawley, and in Clifty Wood near Hanley, Worcestershire. ST.] A. May, [and June. ST.]

Swine refuse it.

hairy-stalked

CARDAM'INE *parvisflora*. Leaves winged, without leaf-scales. Leaflets spear-shaped, blunt. Flowers with petals.—

Curt. iv. 47, *C. hirsuta*.—Walc, *C. hirsuta*.—(Fl. dan. 148, agrees with it in all respects but in the blossom, which is so very large that it must be a distinct species.)

Very much resembling *C. impatiens*, but differs as follows: *Stem* shorter, angles not so sharp. *Leaves* without leaf-scales; *leaflets* spear-shaped, blunt, scarcely toothed, the lowermost not hand-shaped, but egg-shaped; smooth. *Chives* shorter than the blossom. *Pods* as small again, upright, on horizontal fruit-stalks. LINN.—*Stem* woolly, especially towards the base. *Leaves* hairy with scattered hairs; all the *leaflets* on leaf-stalks, those of the root-leaves roundish; those of the stem-leaves heart-egg-shaped and egg-shaped, with 1 or 2 teeth on each side. HUDS.—*Stem* hairy, branched. *Leaves* somewhat hairy; *root-leaves*, leaflets roundish, with 1 or 2 teeth, the terminating one larger, with 3 imperfect lobes, or bluntly ferrated;

serrated; *stem-leaves* somewhat narrower, but still broad. HALL. ST.—*Stem* to the middle and upwards, and the *leaf-stalks*, and the lower *leaves* somewhat hairy, with scattered open hairs. *Flowers* of the size of those of *Thlaspi Bursa pastoris*. *Petals* white. *Chives* 6. LEERS. ST.—*Stem* 6 or 8 inches high, angular, with zigzag flexures at the origin of the branches, and covered with soft white horizontal hairs. *Leaves* sprinkled with hairs on the upper surface, but which are not so numerous as on the stem; the *leaflets* 3 or 4 pair, with an odd one, *those of the root-leaves* nearly heart-shaped, and a little indented; *those of the stem-leaves*, especially the uppermost, elliptical, with 2 or 3 distant teeth on each edge. *Flowers* small. *Chives* 6. LIGHTF. ST.—*Stems* several, or single, generally upright, sometimes ascending, furrowed, at first beset with hairs, but in the older plants frequently losing their hairiness; about a foot high. *Root-leaves*, *leaflets* very uncertain in their shape, in general roundish, and varying either to oblong-heart, or kidney-shaped, either indented, or more or less angular; unequal at the base, nearly fitting, gradually smaller downwards; the odd one twice as large, nearly elliptical, on a leaf-stalk; *stem-leaves*, *leaflets* on leaf-stalks, either oblong and slightly indented, or angular, or cut, angles pointed; *those of the upper-leaves* spear or strap-spear-shaped, with a few scattered, saw-like, pointed teeth, and in a wet situation oblong and very entire. *Leaf-stalks* sometimes hairy at the base. *Bunches* terminating or from the bosom of the branches, as long again as the leaves. *Fruit-stalks* bearing flowers nearly from the base. *Pedicles of the flowers* nearly upright, of the fruit between open and expanding, about half as long as the pods. *Empal. leaves* egg-oblong, somewhat pointed at the end, upright, purplish, membranaceous at the edge, with a few hairs on the outside. *Petals* white, with greenish veins, upright, regularly tapering down to the base, when the flower first opens as long as the empal. but continuing to grow they become, as do also the *chives*, as long again. Clearly distinct from *C. hirsuta*. Comes into flower as the *C. hirsuta* is going out. ST.—*Stems* hairy, angular. *Root-leaves*, *leaflets* 3 or 4 pair, with an odd one, which is broader; circular or oblong, more or less toothed or indented, unequal at the base, sometimes smooth; *stem-leaves*, *leaflets* oblong, the terminating one longer. *Flowers* in broad-topped spikes. *Empalement* coloured. *Chives*, the 2 opposite ones shorter than the empalement, the other 4 rather longer. *Seeds* 6, adhering to each side of the partition. WITH.

Cardamine hirsuta. WEBER.—α. HUDS.—*Cardamine impatiens altera hirsutior*. R. syn. 300. (ST.)

Shady, wet, and boggy places. LIGHTF. ST. A. May.—July.

CARDAM'INE

hairy-leaved CARDAM'INE *hirsuta*. Leaves winged. Chives 4.*

Scop. 38. at ii. p. 21.—Pet. 47. 4.—Barr. 455.—J. B. ii. 888, cop. in H. ox. iii. 4. 11.—(Fl. dan. 148, with blossoms as large as the leaflets; must surely be a distinct species. Haller, from its large flowers, is inclined to refer it to *C. amara*, but then the stem is hairy, which in *C. amara* is smooth.)

Upper-leaves bare. HUDS.—Stems 3 to 6 inches high, straighter, and less hairy than those of *C. parviflora*. Stem-leaves, leaflets narrow, nearly strap-shaped and entire. Chives 4. LIGHTF. ST.—Stems generally numerous, the central one upright, the rest declining, hairy. Root-leaves very numerous, forming a circle on the ground; leaflets roundish, 3 or 4 pair, with an odd one much larger; stem-leaves, 2 or 3 on each stem, roundish or spear-shaped. Mr. WOODWARD.

Cardamine hirsuta β HUDS.—*Cardamine minor arvensis*. D. Lhwyd, in R. syn. 300. n. 4.—(*Cardamine impatiens altera hirsutior*. R. syn. 300, is *C. parviflora*.) (ST.)

Gravelly soils, moist rocks, sides of rivulets, LIGHTF. ST.—and also on ditch banks, dry as well as shady, and dry marle banks. Sr.

A. and P. HUDS. March.—June. ST.

The young leaves are a good salad.—It is pretty warm in the mouth, much resembling Water Cress in taste. ST.

common CARDAM'INE *pratensis*. Leaves winged. Leaflets of the root-leaves roundish; those of the stem-leaves spear-shaped, LINN.—very entire. HUDS. ST.

Curt. iii. 30.—Walc.—Sheldr. 109.—Blackw. 223.—Lob. obs. 106. 2, repr. in ic. i. 210. 1, Ger. em. 259. 1, and cop. in Ger. 201. 1.—Clus. ii. 128. 2, repr. in Dod. 592. 2, Lob. obs. 106. 3, ic. i. 210. 2, Ger. em. 259. 2, and cop. in Ger. 201. 2, Park. 826. 2, and 1239. f. 4, H. ox. iii. 4. 7, and Pet. 47. 5.—Lonic. i. 159. 5.—Fuchs. 325, cop. in J. B. ii. 889. 1.—Trag. 83. 1.—Matth. 488, cop. in Ger. 202. 4, represent the leaves and stem with bunches of flowers supplied by the artist's fancy or imperfect memory.

Tips yellow. WIGGERS. CURT.—Bloss. with always some tinge of purple. CURT. Mr. WOODWARD.—Leaflets of the lower stem-leaves egg-shaped, higher up spear-shaped, those of the upper strap-shaped.

* Mr. Hudson, considering this and the *C. parviflora* to be one and the same species, comprehends them both under the following character. ST.

C. hirsuta. Leaves winged. Leaflets of the root-leaves roundish-heart-shaped; those of the stem-leaves egg-shaped, toothed, on leaf-stalks, HUDS.—Chives 4 and 6. HUDS.

shaped. Mr. WOODWARD.—Sometimes throwing out roots from the mid-rib of the bottom of the leaves. *Shaft* upright. CURT.

Cuckow Flower.—Meadows and moist pastures. P. Apr. May.

The virtue of the flowers in hysteric and epileptic cases, was first mentioned by Ray, in his letters, published by himself; and since then by Dr. Baker in the *Med. transf.* i. 442. The dose is from 20 to 90 grains twice a day. Do they not act like the *Erysimum cheiranthoides* in the epilepsies of children, and cure the disease by destroying the worms in the stomach and intestines, which were the cause of the fits? I have accounts of their success in young epileptics, from good authority; but have never been fortunate enough to see them of much use in hysterical cases.—Goats and Sheep eat it. Horses and Swine refuse it. Cows are not fond of it.

CARDAM'INE *ama'ra*. Leaves winged. Suckers *bitter* from the bosom of the leaves. LINN.—Leaflets of the stem-leaves angular, sitting. ST.*—*Suckers not always to be found*. LIGHTFOOT.

Curt. iii. 30.—Herm. par. 203.—J. B. ii. 885.—C. B. pr. 45. 1, cop. in Park. 1239. 3, and abridged in Pet. 47. 1.—(Scop. 39, has simple leaves.—Fl. dan. 184, has a hairy stem.)

Suckers creeping. *Petals* more upright than in *C. pratensis*. *Tips* purple, not yellow. LINN.—*Petals* pure white. HALL. Mr. WOODWARD. ST.—*Stem* smooth. *Leaflets* smooth, but the edges fringed with exceedingly minute hairs, those of the stem-leaves oblong, the angles terminated by a small tooth, CURT. ST.—sometimes obscurely indented, sometimes between indented and toothed, with distant saw-like teeth, the uppermost often spear-shaped. ST.—*Root* and *stem-leaves* alike; leaflets 3 or 4 pair, roundish, but somewhat angular; with an odd one larger, those of the uppermost egg-shaped, sometimes almost spear-shaped, toothed. Mr. WOODWARD.—*Stem* angular, strong, and almost woody. *Suckers* round, crooked. *Leaflets* irregularly indented, and thinly set with little teeth. *Bunches* terminating and lateral, the lateral ones sometimes horizontal. WITH.

Bitter Cresses.

Near purls of water, rivulets, on the banks of rivers, boggy places, and moist meadows and pastures. Dorking, Surry; Braintree; Essex; Middleton, Warwickshire; Lewisham, Harefield, Uxbridge, Battersea, Chelsea, and G. Comberton, Worcester-sh. [Norwich. Mr. CROWE.—Bungay, Suffolk. Mr. WOODWARD.—

Above

* Foliolis caulinis angulatis sessilibus. ST.

Above Worcester. ST.—Aston, near Birmingham. WITH.]

P. Apr. May.

Sheep eat it. Cows are not fond of it. LINN.

The young leaves are acrid and bitterish, but do not taste amiss in sallads. LIGHTF.—The leaves are pungent, bitter and aromatic, in such a degree as to promise very considerable medical uses. WITH.—The *Papilio Cardamine* lives upon the different species.

877. SISYM'BRIUM. Water-cress.

EMPAL. Cup 4 leaves; spear-strap-shaped; expanding; coloured; deciduous.

BLOSS. 4 petals; forming a cross; oblong; expanding; generally smaller than the cup. Claws very small.

CHIVES. Threads 6; longer than the cup; the 2 opposite ones somewhat shorter. Tips simple.

POINT. Seed-bud oblong; thread-shaped. Shaft very short. Summit blunt.

S. VESS. Pod long; crooked; hunched; cylindrical. Cells 2. Valves 2; straight; rather shorter than the partition.

SEEDS many; small.

ESS. CHAR. Pod opening; with straightish valves. Empal. and blossom expanding.

Obs. In *S. sylv.* and *amphib.* the pod is hunched and very short.

* Pods short; declining.

common SISYM'BRIUM *Nasturtium*. Pods declining. Leaves winged; leaflets nearly heart-shaped, LINN.—egg-shaped. POLLICH. WITH. ST.

Fl. dan. 690.—Fuchs. 723, cop. in J. B. ii. 884, and Trag. 82. 2.

—Dod. 592. 1, repr. in Lob. obs. 105. 3, ic. i. 209. 1, Ger.

em. 257. 5, cop. in Park. 1239. 1, H. ox. iii. 4. 8, and Pet. 47.

2.—Math. 487, not in flower.—Lonic. i. 114. 2.—Blackw. 260.

Blossoms white, terminating.

Water-cresses.—Springs, brooks, and rivulets. B. June. July.

This is very universally used as an early and wholesome spring sallad. It is an excellent anti-scorbutic and stomachic, with less acrimony than the Scurvy-grass. It is an ingredient in the anti-scorbutic juices.—A Horse refused it, but they have been sometimes observed to eat it greedily. ST.

β. HUDS. Leaflets fewer. RAY.

Near the Back-Jack, near Peckham Fields. RAY.

γ. HUDS.

γ. HUDS. Leaves smaller. RAY.

Pet. 47. 3.

With variety α. RAY.

SISYM'BRIUM *sylvestre*. Pods declining, oblong-creeping egg-shaped. Leaflets spear-shaped, serrated. LINN.—Pods cylindrical. ST.*

Curt. iii. 26.—Ger. 190, cop. in Ger. em. 248. 6, and Park. 1242, and abridged in Pet. 46. 5, and H. ox. iii. 6. 17.—Fuchs. 263, cop. in J. B. ii. 866. 2.

Root creeping very remarkably. Leaflets of the root-leaves somewhat egg-shaped, those of the stem-leaves spear-shaped, Flowers small, yellow. Pedicles declining. Bloss. a little longer than the empalement. Honey-cup glands 4, in a circle. Seeds generally abortive, it increasing so considerably by the root. CURT. MR. WOODWARD.

Water Rocket.—Marshy and watery places, and banks of rivers. Banks of the Thames, [of the Aire below Leeds. Mr. WOOD.—Near Bungay, Suffolk, the only place in Norfolk and Suffolk where it has been hitherto found. Mr. WOODW.—On the banks of the Severn, near Worcester. ST.] P. June. July.

SISYM'BRIUM *amphibium*. Pods declining, oblong-egg-shaped. Leaves† with winged clefts, serrated‡ LINN. Radish
—Leaves entire, and with winged clefts. Petals longer than the empal. HALL. POLlich. Mr. WOODW. ST.

Water Radish.

Watery places, and banks of rivers.

P. June.—Aug.

1. Leaves simple, tooth-serrated. LINN.

C. B. pr. 38. 1, cop. in Park. 1229. 2, and Pet. 49. 8, and abr. in H. ox. iii. 7. row 3. 4.—Ger. 180, cop. in Ger. em. 234. 2. —(Ger. em. 240. 2, is variety 2.)

When growing in water of some depth the leaves below the surface strap-shaped, winged, nearly like those of the *Hottonia*, those above spear-shaped, serrated. LINN.—Stem upright, branched. Leaves spear-shaped, variously toothed, smooth, half embracing the stem. Fruit-stalks much longer than the pods, and much longer than in the *S. terrestre*. Pod oblong, very short, smooth, at first expanding, afterwards hanging down. MR. WOODWARD.—Ends of the
the

* Siliquis cylindricis. ST.

† *Foliolis*, in the 13th and 14th editions of the *Syst. veg.* is an error of the press. ST.

‡ Linnæus's *S. amphibium* comprehends also *S. terrestre* as a variety. ST.

the general fruit-stalks often swollen into a cauliflower-like substance, purplish, and containing small grubs of the same colour. ST.—Stem smooth, scored, crooked at the joints. Leaves egg-spear-shaped, scolloped and set with little teeth at the edge, with often from 1 to 3 winged clefts at the base. Leaf-stalks semi-cylindrical, channelled above. Fruit-stalks while in flower about $\frac{1}{2}$ an inch long, and upright, but afterwards bending back and pointing downwards. Flower, the whole yellow. Petals rather larger than the empalement. Shaft cylindrical, thick, more than half the length of the seed-bud, yellow, permanent; when the fruit ripens becoming green, and about half the length of the seed-bud. Pod nearly egg-shaped, smooth, green; valves egg-shaped. Seeds nearly egg-shaped, compressed, 3 to 6 perfect ones in each cell. WITH.

Sisymbrium amphibium aquaticum β LINN.—*S. aquaticum*. POLLICH.—*Radicula sylvestris seu palustris*. R. syn. 301. (ST.)

In the Foss at York. MR. WOOD.—Side of the river and wet ditches at Tamworth. WITH. ST.—and of the Severn near Worcester. ST.

Cows refuse it. Sheep and Goats are not fond of it.

jagged 2. Leaves with deep winged clefts. ST.

Ger. 185. 2, cop. in *J. B.* ii. 867. 2, and *Pet.* 49. 10.—*Lob. ic.* i. 319, repr. in *Ger. em.* 240. 2, and cop. in *Park.* 1228. 1.

Leaves, the clefts extending nearly to the mid-rib, segments spear-strap-shaped, pointed, generally very entire, or with 1 or 2 saw-like teeth. Merely a variety growing with that with entire leaves, and having intermediate specimens with leaves pretty deeply cut and serrated, as in *Lob.* and its copies. ST.

[With variety 1. ST.]

Sisymbrium amphibium terrestré γ LINN. on the authority of the figures referred to by Vaill.

annual *SISYMBRIUM terrestré*. Root annual. Leaves with winged clefts. Pods full of seed. CURT.—Petals shorter than the empalement. HALLER. POLLICH. ST.—Pods declining. MR. WOODWARD. ST.

Curt. v. 49.—*J. B.* ii. 807. 1.—*C. B. pr.* 38. 2, cop. in *Park.* 1228. 1. f. 2, *H. ox.* iii. 7. row 3. 3, and *Pet.* 49. 9.

Leaves, segments confluent with the mid-rib, often pointing backwards, alternate, or in pairs, elliptical, or egg-shaped, serrated, or toothed here and there. HALL.—Root spindle-shaped, white within and without. Stem upright, or trailing, a foot to a cubit high, angular, reddish green, smooth; branches alternate diverging, sub-dividing. Leaves spear-shaped, bluntish; those near the root forming a turf, running down to the leaf-stalk;

stem-leaves

Stem-leaves alternate, embracing the stem, 3 to 6 inches long, 1 or 1½ inch broad; wings alternate and opposite, and one running into another, spear-shaped, bluntish, serrated round the edge, the odd one less divided but more toothed, all of them of a pleasant green, smooth, with a fine veined network underneath; the *upper leaves* more deeply serrated and eared at the base. *Bunches* terminating the stem and branches. *Flowers* small, when expanded somewhat more than 2 lines in diameter. *Empalement* green, yellow at the edge, somewhat more than a line in length, and ¼ of a line broad. *Petals* yellow, blunt, very entire, somewhat shorter than the empalement, 1 line long, and hardly ⅓ broad. *Threads* 5, greenish yellow. *Tips* small, roundish, yellow. *Seed-bud* strap-shaped, cylindrical. *Shaft*, scarcely any. *Summit* a knob, yellowish. *Honey-cup glands* none. POLLICH. Mr. WOODWARD.—*Upper leaves*, wings spear-shaped, toothed, the terminating one deeply indented. Mr. WOODWARD.—*Threads* of the *general fruit-stalks* sometimes swelling into a kind of cauli-flower-like excrescence, within which small yellow grub is found. ST.

Sisymbrium amphibium palustre. LINN.—*S. palustre*. POLLICH.—(*S. palustre repens*, *parvo flore*. VAILL. par. 186, is said to be perennial.) ST.

Edges of wet ditches, and on ground apt to be occasionally overflowed in the environs of London, as Tothil-fields, and between the Magdalen Hospital and Lambeth Marsh. CURT.—Bungay Common, Suffolk. Mr. WOODWARD.—Near Stafford, on the road to the Castle-hill. ST.] A. June.—Sept.

** *Stem naked*, [or with few leaves. WITH.]

SISYM'BRIUM *muralle*. Stem with few or no *wall* leaves, roughish, ascending. Leaves spear-shaped, indented-serrated, smoothish.—

Brassica muralis. HUDS. which see.

SISYM'BRIUM *monense*. Stem without leaves. *Isle of Man* leaves between winged and toothed. Stalks smooth.—

Brassica monensis. HUDS. which see.

*** *Leaves winged*.

SISYM'BRIUM *Sophia*. Petals smaller than the *Flixweed* empalement. Leaves doubly compound-winged.—

Ludw. 73.—*Fl. dan.* 528.*—*Sheldr.*—*Dod.* 133. 2, repr. in *Lob. obs.* 426. 1, ic. i. 738. 2, *Ger. em.* 1068, and cop. in *Park.* 830. 3, and *Pet.* 46. 12.—*Fuchf.* 2, cop. in *J. B.* ii. 886. 2, and abridged in *Trag.* 338.—*Ger.* 910. 1 and 2.—*Lonic.* i. 49. 2.

Pods long, stiff, and crooked. *Seeds* yellow. *Blossoms* yellow.

Flix-weed.—Walls and among rubbish.

A. July.

The pods retain the seeds all winter, and small birds feed upon them. The force of a gun is said to be augmented if the gunpowder is mixed with a tenth part of these seeds. The plant is sometimes prescribed in hysteric and dysenteric cases; and the seeds are given to destroy worms.—Sheep and Cows eat it. Horses and Goats are not fond of it. Swine refuse it.

broad-leaved

SISYM'BRIUM *Irio.* Leaves notched, toothed, naked. Stem smooth. Pods upright.—

Jacq. fl. iv. 322.—*Park.* 834. 4, cop. in *H. ox.* iii. 3. row 3. 3, and *Pet.* 46. 4.

Differs from the *S. altissimum* as follows: All the leaves more toothed, green, not whitish; the upper not cut into very long strap-shaped wings. Stem shorter, not so smooth. Pods more upright, and not loose and pendant. LINN.—Stem-leaves with winged clefts, the upper halberd-shaped, and some few simple and quite entire. JACQ.—Stem nearly smooth. Leaves variously toothed and cut, sometimes with winged clefts at the base, generally terminated by a long spear-shaped lobe; the upper usually simple, spear-shaped, with 1 or 2 teeth towards the base. Pods long, strap-shaped, upright, but not pressed to the stem. Fruit-stalks short, Mr. WOODWARD.—Blossoms yellow.

Old walls and amongst rubbish.

A. May.—Aug

* The very elegant sub-divisions of the leaves not sufficiently expressed. Mr WOODWARD. ST.

878. E R Y S ' I M U M. Worm-feed.

EMPAL. *Cup* 4 leaves; oblong-egg-shaped; parallel, but approaching at the top; coloured; deciduous.

BLOSS. 4 *petals*; forming a cross; oblong; flat; very blunt. *Claws* as long as the cup; upright. *Honey-cup Glands* double; on the inner side of the shorter chives.

CHIVES. *Threads* 6; as long as the cup; the 2 opposite ones shorter than the others. *Tips* simple.

POINT. *Seed-bud* strap-shaped; 4-edged; as long as the chives. *Shaft* very short. *Summit* a small knob; permanent.

S. VESS. *Pod* long; narrow; stiff, and straight; with 4 edges, 2 valves, and 2 cells.

SEEDS many; small; roundish.

ESS. CHAR. *Pod* columnar; exactly 4-sided. *Empal.* closed.

E R Y S ' I M U M *officina'le*. Pods pressed to the spike- hedge stalk. Leaves notched.—

Ludw. 187.—*Fl. dan.* 560.—*Sheldr.*—*Blackw.* 28.—*Ger.* 198. 1, abridged in *Pet.* 46. 3.—*Fuchf.* 592, cop. in *J. B.* 863, and *Dod.* 714, which repr. in *Ger. em.* 254. 1, abridged in *Trag.* 102. 1, and ill cop. in *Lonic.* i. 165. 1, repr. in ii. 22. 2.—*Lob. adv.* 69, repr. in *ic.* i. 206. 1, and cop. in *Park.* 833, has the pods expanding.—(*Math.* 572, is *E. Barbarea.*)

Stem cylindrical, frequently purple, particularly at the angles of the branches. *Branches* very expanding. *Pods* roundish, somewhat awl-shaped, pressed so close to the spike-stalks as to appear naked.

Mr. Woodw.—*Stem* hairy, branched towards the top. *Branches* ascending. *Leaves* slightly woolly, the lower winged, the upper halberd-shaped. *Empalement* about half as long as the petals. *Bloss.* yellow. *Seed-bud* cylindrical, tapering upwards. *Summit* flat, with a shallow nick. *Pod* conical, scarce sensibly 4-cornered, hairy. *Seeds* oblong. WITH.—*Flowers* in long spikes, terminating.

Hedge Mustard. *Bank Cresses.* *Scrambling Rocket.*

Under walls and hedges, road sides and among rubbish.

A. May. June.

It is warm and acrid to the taste; and, when cultivated, is used as a spring pot-herb. Birds are fond of the seeds.

Sheep and Goats eat it. Cows, Horses, and Swine refuse it.

By means of this herb a hoarseness, occasioned by loud speaking, was cured in 3 days, by Rondeletius. LINN.—“ Juice of Hedge
Z z 2 “ Mustard

“ Mustard is beyond any thing in ulcers of the throat. This was
 “ found by experience by the Honourable Harry Gray, Esq.
 “ when all advice of Doctors and Surgeons availed nothing. This
 “ from his own mouth.” Manuscript note in a copy of Parkinson
 which formerly belonged to Mr. Saunders, surgeon, at Stour-
 bridge.

Rocket ERYSIMUM *Barba'rea*. Leaves lyre-shaped, the
 terminating segment circular.—

Walc.—Ger. 188.—Fuchf. 746, cop. in J. B. ii. 869, abridged in
 Trag. 101. 2, and Lonic. i. 165. 2.—Dod. 712. 1, repr. in
 Lob. obs. 104. 2; ic. i. 207. 2, Ger. em. 243, and cop. in
 Park. 820, H. ox. iii. 5. 11 and 12, and Pet. 46. 1.—Matth.
 57².

Honey-cup glands 4, 2 between the longer chives, and 2 support-
 ing the shorter chives. LYONS.—Stem smooth, cylindrical, deeply
 furrowed, much branched. Flowers numerous, at the top of
 the branches. Pods with 4 obscure angles. Mr. WOODW.—Pods
 upright, parallel to the spike-stalk. ST.—Stems strong, with about
 8 deep furrows, and as many sharp ridges. Leaves half embrac-
 ing the stem, winged, the terminating leaflet egg-shaped, notched.
 Empal. leaves in the flowers not yet expanded green, and 2 of them
 larger, with a helmet-shaped hollow at the top. Pods long, slen-
 der, somewhat cylindrical, slightly flattened, not very sensibly 4-
 edged. Blossoms yellow. WITH.

Winter Cresses. Winter Rocket.

Walls, banks on the sides of running streams, watery places,
 and sometimes in cultivated fields. P. May.

The common people in Sweden use the leaves in fallads, early
 in the spring, and late in the autumn; they also boil them as Cale.
 It is sown in gardens as an early spring fallad, LINN.—and also
 in England where it is called French Cress. ST.

Cows eat it. Horses and Swine refuse it. Goats and Sheep
 are not fond of it.

β. Leaves smaller, and more frequently scolloped. RAY.

Pet. 46. 2.

Blossoms yellow.

A. DILL. PET. Apr.

Garlick ERYSIMUM *Allia'ria*. Leaves heart-shaped.—

Ludw. 77.—Curt. ii. 24.—Walc.—Fuchf. 104, cop. in J. B. ii.
 883, Lonic. i. 160. 2, and Trag. 86.—Matth. 843.—Dod.
 686, repr. in Lob. obs. 285. 3, ic. i. 530. 1, Ger. em. 794,
 and cop. in Park. 112. 5, and H. ox. iii. 10. 6.—Ger. 650, abr.
 in Pet. 45. 1.—Blackw. 37².

Stem

Stem cylindrical, smooth, but near the root hairy. *Leaves* alternate, smooth; the lower bluntly scolloped, blunt at the end; the upper sharply toothed, taper-pointed; the root-leaves smaller, on longer leaf-stalks. *Flowers* white, in broad-topped spikes. *Empal.* leaves oblong, white, falling off. *Petals* blunt. *Honey-cup glands* 4, 2 between the longer chives, 2 supporting the shorter chives. *LYONS.*—*Stem* smooth. *Leaves* indented, smooth. *Leaf-stalks* smooth, except a few hairs at the base. *MR. WOODWARD.*—*Stem* cylindrical. *Leaves* bluntly and irregularly serrated, alternate, on leaf-stalks. *Flowers* in a broad-topped spike. *Honey-cup glands* 4, 1 on the outside of each pair of longer chives, and 1 supporting each of the short chives which grow in a cavity at the top of them.

WITH.

Jack-by-the-hedge. *Sauce-alone.*

Hedges, ditch banks, and shady places.

P. May.

The Prussians eat the leaves along with salted meats in the spring. They are useful with Lettuce and the colder fallads. The seeds excite sneezing.

Cows and Goats eat it. Horses, Sheep, and Swine refuse it.

The *Curculio Alliaria* feeds upon it. LINN.

When it grows in poultry yards the fowls eat it, and it gives an intolerable rank taste to their flesh. WITH.

ERYS'IMUM *cheiranthoides*. Leaves spear-shaped, Treacle very entire. Pods open. LINN.—Leaves toothed. Pods upright. HUDS. ST.

Jacq. fl. i. 23.—*Lob. obs. 112. 1, repr. in ic. i. 225. 1, Ger. em. 273. 4, and cop. in Park. 868. 3, H. ox. iii. 5. 7, and Pet. 45. 2.*—*J. B. ii. 894. 1.*—*Fl. dan. 731, pods spear-shaped, flattened!*

In habit very much resembling the *Cheiranthus erysimoides*, except in its smaller flowers, and its pods, which are slightly expanding, or at a distance from, not near to the stem. *Summits* small, scarcely divided. LINN.—*Seeds* oblong, yellowish brown, intensely bitter. RAY. *MR. WOODWARD.*—*Stem* 1 to 2 cubits high, rough, stiff, quite straight, scored, generally simple, sometimes a little branched. *Leaves* very entire, roughish, the mid-rib running down the stem, the uppermost sometimes a little toothed. *Bloss.* small, yellow. *Pods* quadrangular, standing out, but upright. LYONS.—*Leaves* a little toothed, and more so than those of *Cheiranthus erysimoides*. *MR. WOODWARD.*—*Stem* somewhat angular, roughish. *Leaves* scattered, upright, with a few very small teeth scarcely observable, roughish to the finger drawn backwards, with a very fine downiness. *Shaft* very short, blunt. *Petals* about 2 lines long, scarcely 1 broad.

TETRADYNAMIA SILIQUOSA.

broad. POLLICH. ST.—*Shaft* not longer than the summit. *Summit* blunt, about the thickness of the shaft. ST.—*Empalement* yellow, and the points yellow. *Pods* terminated by a minute summit. RETZ. ST.

Treacle Worm-feed.

Offer-holts, and banks of the river near Ely; Ashburne, Derbyshire; and corn fields about Elden, Suffolk. [Amongst turneps near Bungay, Suffolk. Mr. WOODWARD.] A. July.

The country people give the seeds to destroy worms, and with good effect.—Horses, Cows, Goats, Sheep, and Swine eat it.

879. CHEIRANTHUS. Gilli-flower.

EMPAL. *Cup* 4 leaves; compressed; spear-shaped; concave; upright; parallel, but approaching towards the top; deciduous; the 2 outer hunched at the base.

BLOSS. 4 *petals*; forming a cross; circular; longer than the cup. *Claws* as long as the cup.

CHIVES. *Threads* 6; awl-shaped; parallel; as long as the cup; 2 of them shorter, and hunched at the base. *Tips* upright; cloven at the base; sharp and reflected at the top. A *Honey-cup gland* surrounding the base of each of the short chives.

POINT. *Seed-bud* prism-shaped; with 4 edges; as long as the chives; with a small tubercle on each side the base. *Shaft* very short; compressed. *Summit* oblong; cloven; reflected; thick; permanent.

S. VESS. *Pod* long; compressed; with 2 opposite angles obliterated and marked with a little tooth. Cells 2; valves 2; shaft very short; summit cloven; upright.

SEEDS many; pendant; alternate; somewhat egg-shaped; compressed; with a membranaceous border.

ESS. CHAR. *Seed-bud* with a glandular tooth on each side. *Empalement* closed; 2 of the leaves hunched at the base. *Seeds* flat.

OBS. The little tooth on each side of the seed bud in some species almost disappears, in others it is of considerable size. In the *C. tricuspidatus* the pod has 3 points at the end.

wild CHEIRANTHUS *erysimoides*. Leaves spear-shaped, toothed, bare. Stem upright, quite simple. Pods 4-cornered. LINN.—Leaves very entire. HUDS.—
Leaves

Leaves generally very entire, but the lower in some specimens with small teeth. JACQ.

Jacq. fl. i. 74, as Jacq. and Murr. what Linnæus says in the mant. pl. refers to Jacq. enum.—Clus. i. 299. 1, repr. in Ger. em. 457. 4, cop. in Park. 625. 2, H. ox. iii. 8. 18, and also in Ger. 373. 4.—J. B. ii. 873. 2.—Zanon. 87, leaves too blunt.—(86, is more like *Erysimum cheiranthoides*.—Fl. dan. 229, is *E. hieracifolium*.*)—Jacq. fl. i. 75, is *C. alpinus*.)

Flowers of the size of those of *Brassica oleracea*. Empalement green, not sea-green, smooth. Summit as thick as the pointal, divided to the base into 2 lobes. Seed-buds cottony. In appearance approaches very near to *Erysimum cheiranthoides*, and *hieracifolium*. LINN. Mr. WOODW.—Seeds not intensely bitter. Mr. WOODW.—Stems branched, bordered, in which point it differs from the genus *Cheiranthus*. HALL. ST.

Offer-holts about Godstow near Oxford, and East Grinstead, Suffex. B. June. July.

CHEIRANTHUS *Cheiri*. Leaves spear-shaped, wall pointed, smooth. Branches angular. Stem shrubby.—

Sheldr. 12.—Ludw. 157.—Walc.—Ger. 371. 1.—Fuchf. 458, cop. in J. B. ii. 872, and abridged in Trag. 560.—Matth. 877.—Dod. 160. 2, repr. in Lob. obs. 179. 1, ic. i. 330. 1, Ger. em. 456. 1, and cop. in Park. 625. 1, H. ox. iii. 8. 15, and Fet. 45. 3.—Blackw. 179, the parts of fructification. (The stem and bunch of flowers is a garden variety.)

Stem woody, a foot high, ascending. Branches angular. Leaves crowded, upright, spear-shaped, with few serratures, smooth, concave. Leaf-stalks hardly distinct from the leaves. Fruit-stalks 4-cornered. Chives, 4 somewhat longer. Glands 2, supporting the shorter chives. Summit slightly cloven. LYONS.—Bloss. yellow. Bunches terminating.

Wall-flower. Wild *Cheir*.

Old walls and roofs.

P. May. June.

It has found a place in our gardens, where it has produced a considerable number of varieties, but none which have a more delightful scent than the wild one.

The *Phalena meticulosa*, and *Pronuba*, feed upon it. LINN.

A Horse refused it. ST.

* OEDER. REICH. Mr. WOODWARD. ST.

pricklepodded CHEI'RANTHUS *sinuatus*. Leaves cottony, blunt; somewhat indented; those of the branches entire. Pods hedge-hogged.—

Lob. adv. 140, repr. in *ic.* i. 330. 2, and *Ger. em.* 460. 2, and enlarged in *Ger.* 374. 2.—*J. B.* ii. 876. 1.

Whole plant cottony, hoary. Stem upright. Root-leaves broad-spear-shaped, alternately toothed, blunt; stem-leaves spear-shaped, blunt, channelled, with 2 pair of blunt teeth about the middle; branch-leaves entire, not toothed. Petals flesh-coloured, blunt, whitish at the base. Pods very long, cottony. LINN.

Leucoium marinum purpureum Lobelii. GER. em. 460. (WITH.)

Sandy sea shores of Caernarvonsh. Anglesea, and Cornwall, and on the rocks at Aberdovie, Merionethshire. B. June. July.

881. HES'PERIS. Damewort.

EMPAL. Cup 4 leaves; strap-spear-shaped; parallel; approaching towards the top; and open at the base; deciduous; the 2 opposite ones hunched at the base.

BLOSS. 4 petals; forming a cross; oblong; the length of the cup; a little bent obliquely to the left; ending in taper Claws which are as long as the cup.

CHIVES. Threads 6; awl-shaped; as long as the tube; 2 of them only half as long. Tips narrow; upright; reflected at the top. Honey-cup Glands tapering; placed between the shorter chives and the seed-bud; surrounding the chive.

POINT. Seed-bud as long as the cup; prism-shaped; with 4 edges. Shaft none. Summit divided; placed inwards; oblong; upright; forked at the base; approaching at the top; shrivelling.

S. VESS. Pod long; compressed and flat; scored. Cells 2; valves 2; as long as the partition.

SEEDS many; egg-shaped; compressed.

ESS. CHAR. Petals bent obliquely. A gland between the shorter chives. Pod quite straight. Summit forked at the base; approaching at the point. Empalement closed.

scentless HES'PERIS *inodora*. Stem simple, upright. Leaves somewhat halberd-shaped, toothed. Petals blunt.—

Jacq. fl. iv. 347.—*Rupp. a Hall.* 1. at p. 78.—*J. B.* ii. 878. 2.—

Clus. i. 297. 1, repr. in *Dod.* 161. 1, *Lob. obs.* 175. 1, *ic.* i.

323. 2, Ger. em. 462. 1, and cop. in Park. 1682. 3, and ill. abridged in H. ex. iii. 10. row 1. 1.*

So like *H. matronalis* as to be scarcely distinguishable but by a very experienced botanist, but the leaves are nearly halberd-shaped, with a transverse base, sharply toothed, especially at the base, foster, and not so rough. Empalement not coloured. Petals blunt, without a point. Chives not projecting beyond the tube of the flower. LINN.—Leaves roughish, and woolly on both sides, with sharp tooth-like ferratures, spear-shaped, both broad and narrow. Petals very entire, or slightly nicked, white, flesh-coloured, purple, or purplish red; claws pale, longer than the empalement. JACQ.—Leaves egg-shaped, tooth-ferrated, pointed, nearly sitting: I have not seen any halberd-shaped. HUDS.

Pastures and hedges. On the banks of the rivulets about Dalehead, Cumberland; and Grasmere, Westmoreland. RAY.

B. LINN. and HUDS.—P. for 10 years. JACQ.—May. June.

882. AR'ABIS. Turkey-pod.

EMPAL. Cup deciduous; leaves parallel, and approaching at the top; 2 of them opposite; oblong-egg-shaped; sharp; a little prominent at the base; hunched; concave; the other 2 strap-shaped; upright.

BLOSS. 4 petals; forming a cross; egg-shaped; expanding; ending in Claws as long as the cup. Honey-cups 4; each composed of a little, reflected, permanent scale, fixed to the receptacle at the bottom, and on the inner side of the leaves of the cup.

CHIVES. Threads 6; awl-shaped; upright; 2 as long as the cup; 4 twice as long. Tips heart-shaped; upright.

POINT. Seed-bud cylindrical; as long as the chives. Shaft none. Summit blunt; entire.

S. VESS. Pod compressed; very long; strap-shaped; unequal from protuberances occasioned by the seeds. Valves almost as long as the partition.

SEEDS many; roundish; compressed.

* The figure of Clusius is referred by Linnæus to *H. inodora*, and that of Dod. tho' a re-impression from the same block, to *H. matronalis*.—C. B. refers them both to *H. matronalis*. ST.

Ess. CHAR. *Honey-cup Glands* 4; 1 within each leaf of the empalement, like a reflected scale.

Oss. This genus is distinguished from the *Cheiranthus* by the honey-cup, and from the *Hesperis* by the summit.

Moufe-ear AR'ABIS *thalia'na*. Leaves on leaf-stalks, spear-shaped, very entire. LINN.—Root-leaves egg-spear-shaped, toothed, rough with prominent points. CURT.—Leaves entire, or toothed. HALL. Mr. WOODWARD.

Curt. ii. 13.—Pollich. ii. at p. 243.—Pluk. 80. 2.—J. B. ii. 870. 2, imitated in H. ox. iii. 7. 5.—Pet. 48. 2.—Thal. 7. D, cop. in Pet. 48. 1.—Barr. 269, and 270.—(Grantz. i. 3. 2, has petals 3 or 4 times as large.)

Root-leaves disposed in a circle on the ground, hairy; those of the stem nearly smooth. Flowers small. Petals white. HALL. ST.—Stem, the lower half hairy, the upper smooth. RETZ. ST.—Stem 1 inch to more than a foot high. Leaves, hairs at the base simple, those on the edges and surface dividing into 2 and 3 forks. CURT. ST.—Honey-cup Glands so very minute as scarcely to be discovered even with a magnifier. CURT.—Root-leaves on leaf-stalks, a little serrated; stem-leaves very entire. Mr. DICKENSON.—Leaves sometimes nearly serrated. Mr. WOODW. ST.—Stem simple, or branched; hairs simple, tapering. Leaves forked, the forks expanding, tapering, pointed; root-leaves oblong-spear-shaped, blunt; stem-leaves spear-shaped, nearly fitting, fringed. Empalement smooth, sometimes with simple hairs at the end. Petals upright, in which respect it accords with *Turritis*. ST.

Coddled Moufe-ear.—Walls, roofs, and dry sandy pastures; [and corn fields. ST.] A. March.—May.

Sheep are not fond of it. Swine refuse it.

β. HUDS. Stem-leaves smooth. RAY.

Pluk. and Pet. as above, but it does not appear to be entitled to the distinction even of a variety.

rough AR'ABIS *stricta*. Leaves toothed, rough with hair; those of the root spatula-shaped, those of the stem half embracing the stem, oblong. Pods 2-edged, upright. HUDS.

Grantz. i. 3. 2.

Root branched. Stems several, 6 inches high, herbaceous, simple, upright, cylindrical, woolly at the base, smooth above. Root-leaves many, spatula-shaped, toothed, and cut-toothed, rough with hair, hairs long, white; stem-leaves 3 or 4, half embracing the stem, oblong, toothed, rough with hair. Flowers in bunches, large,

large, white. *Fruit-stalks* short. *Petals* inversely egg-shaped, very entire; as long again as the empalement. *Pods* upright, quite straight, $1\frac{1}{2}$ inch long, 2-edged, 4-cornered at the base, scored. *Seeds* roundish, brown. HUDS. Mr. WOODWARD. ST.—*Leaves* purple underneath. CRANTZ. ST.—*Petals* as long again as the empalement. *Glands* forming a kind of ring round the base of the chives. HALL. ST.—*Pods* sometimes considerably expanded. HALL. Mr. WOODWARD.—*Floral-leaves* strap-spear-shaped, at the base of the lower fruit-stalks. Mr. WOODWARD.—*Stems* below rough with white hairs. *Root-leaves* of the larger plants cut in a wing-cleft manner, segments blunt, shining underneath; *hairs* mostly forked. *Floral-leaves* very entire, generally fringed at the ends. *Empalement* dirty yellow, tinged with purple. *Petals* oblong-wedge-shaped, gradually tapering down to the base, yellowish white, and white sometimes tinged with purple. *Chives* nearly of an equal length. *Seed-bud* becoming longer than the blossom before it falls. ST,

Arabis thaliana. CRANTZ. i. 39.—*Cardamine pumila* Bellidis folio, alpina. R. syn. 300: (ST.)

Rocks and stony mountainous situations. St. Vincent's Rock near Bristol, RAY. HUDS. [in great plenty. Dr. BROUGHTON and Mr. FORD.] A. May.

AR'ABIS *Turrita*. Leaves embracing the stem. Pods tower
bowed down, flat, strap-shaped. Empalements somewhat wrinkled.—

Jacq. fl. i. 11.—Clus. ii. 126. 2, repr. in Ger. em. 272. 2, cop. in Park. 852. 2, Pet. 47. 1, and abridged in H. ox. iii. 2. 23.—Barr. 353.—(Fl. dan. 62, is *A. alpina*.—Crantz. i. 3. 2, is not referred to either by Jacq. or Crantz. himself as *A. Turrita*.)

Stems a foot high, scarcely branched. *Root-leaves* oval-oblong, thick, hoary, waved at the edge; *stem-leaves* toothed, the upper most serrated, not so hoary. *Pods* compressed, nearly fitting, smooth, stiff, alternate, bent on the lower side. *Flowers* straw-coloured. LINN.—*Glands* as in *Brassica*. MART.—*Root* woody. *Stem* upright, cylindrical, rough with hair, simple, 9 inches high. *Root-leaves* on leaf-stalks, egg-shaped, toothed, pointed, rough with hair; *stem-leaves* oblong, toothed, cottony. *Flowers* upright, white. *Fruit-stalks* short. *Glands* within the shorter, and without the longer chives. *Pods* long, compressed. *Shaft* short, permanent. *Seeds* round, compressed. LYONS.—*Stem* 1 to 2 feet high, cylindrical, scored, downy, generally simple. *Leaves* hairy on both sides; *root-leaves* oblong, thick, greyish, waved at the edge; *stem-leaves* similar, toothed, regularly decreasing upwards in size; the upper more pointed, rather serrated than toothed, not so grey. *Pods* very

very long, smooth, strap-shaped, compressed, on short fruit-stalks, rising at the base, and then bent downwards, forming an elegant curve. Mr. WOODWARD.

Old walls and stony places. On Trinity and St. John's College Walls, Cambridge. MART. [Mr. WOODWARD.] A. June.

hairy AR'ABIS *hirsuta*. SCOP. WIGGERS.
Turritis hirsuta, which see.

883. TURRITIS. Towerwort.

EMPAL. *Cup* 4 leaves; oblong-egg-shaped; parallel, but approaching towards the top; deciduous.

BLOSS. 4 *petals*; forming a cross; oblong-egg-shaped; blunt; upright; entire. *Claws* upright.

CHIVES. *Threads* 6; awl-shaped; upright; as long as the tube; 2 of them shorter. *Tips* simple.

POINT. *Seed-bud* as long as the blossom; cylindrical; a little compressed. *Shaft* none. *Summit* blunt.

S. VESS. *Pod* exceedingly long; stiff and straight; with 4 edges; but 2 of the edges, which are opposite, almost obliterated, and somewhat compressed. *Cells* 2; *valves* 2; rather shorter than the partition.

SEEDS very numerous; roundish; notched.

ESS. CHAR. *Pod* very long; angular. *Empalement* approaching; upright. *Bloss.* upright.

smooth TURRITIS *glabra*. Root-leaves toothed, rough with hair; stem-leaves very entire, embracing the stem, smooth.—

Curt. iv. 44.—Fl. dan. 309.—Clus. ii. 126. 1, repr. in Lob. ic. 220. 2, Ger. em. 272. 1, and cop. in Ger. 212. 1, Park. 852. 1, H. ex. iii. 2. 22, and Pet. 47. 10.

Honey-cup glands none. POLLICH.—Stem 2 to 3 feet high, simple, cylindrical, slightly scored, smooth. Root-leaves spear-shaped, tapering into a leaf-stalk, indented towards the base, entire upwards; stem-leaves numerous, heart-spear-shaped, generally entire, but sometimes slightly toothed, pale sea-green. Pods smooth, very numerous, lying to the stem, and tiled. Seeds reddish brown. Mr. WOODW.—Root-leaves, hairs forked at the end. ST.—Pods when fully grown cylindrical, compressed. Blossoms greenish white. Bunches long, terminating. WITH.

Tower Mustard.

Meadows.

Meadows, pastures, pits, and waste places, in a gravelly soil. Near Chaleton and Lewisham, Kent; near Colchester, [Spixwort, Norfolk. Mr. WOODWARD.—Lichfield. Mr. WHATELY.—Castle Bromwich. Mr. JONES. WITH.—Between Ashbourne and Okeover. ST.] A. May. June.

The seeds reduced to powder are given in Sweden for pleuritic complaints.

Cows, Goats, and Sheep eat it. Horses and Swine refuse it.

TURRI'TIS *hirsu'ta*. All the leaves rough with hair; *hairy* stem-leaves embracing the stem.—

Walc.—C. B. pr. 42. 2, cop. in Park. 834. 6, and abridged in Pet.

47. 12.—H. ox. iii. 3. 5.

Stem, hairs simple. Root-leaves oblong, hairs branched. Empal. smooth. Scop. ST.—Stem-leaves, hairs simple, Scop.—generally forked. ST.—Stem simple. Leaves oblong, blunt. LYONS.—Stem rough with hair, simple, not so tall as that of *T. glabra*. Root-leaves egg-shaped, toothed; stem-leaves spear-shaped, blunt, toothed, half embracing the stem. Pods smooth, not so numerous as in *T. glabra*. Mr. WOODWARD.—Blossoms white. Bunches terminating. Distinguishable from *Arabis thaliana* by the stem-leaves embracing the stem. ST.

Arabis hirsuta, Scop. its honey-cup glands corresponding with Linnæus's character of the *Arabis*. Scop. WIGGERS.

Wall Cress.

Rocks, stony places, old walls and castles, and dry mountainous pastures. Banks beyond Midhurst, Suffex; Switham Bottom, near Croydon; about Settle, Yorkshire; King's Park, Edinburgh. LIGHTF. [ST.—Lakenham, near Norwich. Mr. CROWE.—Wifebech, Bury. Mr. WOODWARD.—St. Vincent's Rock, plentifully. Dr. BROUGHTON and Mr. FORD.] P. June.

Cows refuse it.

884. BRAS'SICA. Cabbage.

EMPAL. *Cup* 4 leaves; spear-strap-shaped; concave; channelled; hunched at the base; upright; parallel; deciduous.

BLOSS. 4 *petals*; forming a cross; somewhat egg-shaped; flat; expanding; entire; gradually tapering into *Claves*, which are nearly as long as the cup. *Honey-cup Glands* 4; egg-shaped; 1 placed between each short chive and the feed-bud; and 1 between each pair of the longer chives and the cup.

CHIVES. *Threads* 6; awl-shaped; upright; the 2 opposite ones as long as the cup; the other 4 longer. *Tips* upright; tapering to a point.

POINT. *Seed-bud* cylindrical; as long as the chives. *Shaft* short; as thick as the seed-bud. *Summit* a knob; entire.

S. VESS. *Pod* long; nearly cylindrical, but depressed on each side. *Partition* projecting at the end; cylindrical. *Cells* 2. *Valves* 2; shorter than the partition.

SEEDS many; globular.

ESS. CHAR. *Empalement* upright; approaching. *Seeds* globular. *A gland* between the shorter chives and the pointal, and between the longer and the empalement.

* *Shaft* bluntysh.

perfoliate BRAS'SICA *orientalis*. Leaves heart-shaped, embracing the stem, smooth; root-leaves rough*, very entire. Pods 4-cornered. LINN.—*All the leaves smooth.*† *Syst. veg.* POLLICH.

Jacq. fl. iii. 282.—*J. B.* ii. 835. 4.—*Clus.* ii. 127. 1, repr. in *Dod.* 626. 2, *Lob. obs.* 215. 3, *ic.* i. 396. 2, *Ger. em.* 536. 2, and cop. in *Park.* 580. 9, *H. ox.* iii. 2, 19 and 20, and *Pet.* 45. 5, and also in *Ger.* 430. 2.—*J. B.* ii. 835. 3.

Petals white. LINN. HUDS.—Too nearly allied to the *B. campestris*. HUDS.—*Stem-leaves* egg-shaped, blunt at the end, heart-shaped at the base, smooth, sea-green, very entire. *Petals* white, with a tinge of straw-colour. *Pods* slender, pointing upwards, and approaching the stem. Mr. Woodw. *Brassica*

* † These contradictions seem to render it probable that the plant given in the hort. ups. and supposed to be the *B. orientalis*, &c. of Tourn. cor. and our European species, are distinct plants. ST.

Brassica campestris perfoliata flore albo. R. syn. 293, (Huds. ed. i. Mr. Woodward. St.)—*Brassica Turrita.* Wigg. (St.)

Corn fields and cliffs on the sea coast near Harwich, and Bardsey near Orford, Suffolk, Ray, (St.)—and corn fields near Godstone and Marshfield, Suffex. Huds.

BRAS'SICA *campestris*. Root and stem slender. *field*
Stem-leaves uniform, heart-shaped, fitting.—

Jacq. fl. iii. 282.*—Fl. dan. 550, is referred to by Linnæus.†—
(Ger. em. 536. 2, referred to by Hudson, is a re-impression of
Clus. ii. 127. 1, which last Linnæus refers to *B. orientalis*.—J.
B. ii. 835. 4, is also *B. orientalis*.)

Root-leaves lyre-shaped, somewhat rough with hairs; stem-leaves smooth. Blossoms yellow. LINN.—Root-leaves oblong, indented, blunt, rough. Flowers yellow or white. Huds.

The only places of growth given by Hudson are those from Ray which really belong to *B. orientalis*, to which they are above referred. St. A. June.

BRAS'SICA *Napus*. The root a continuation of *Rape*
the stem. spindle-shaped.—

Ludw. 165.—Blackw. 224.—Walc.—Fuchf. 177, cop. in J. B. ii. 843, Trag. 730, and imitated in Lonic. i. 191. 3.—Lob. obs. 200. 2, repr. in Ger. em. 235. 2, and cop. in Park. 865, and abridged in Pet. 45. 9, and H. ox. iii. 2. row 3. 2. f. 3.—Ger. 181. 2.—(Dod. 674, is variety *β*.)

Root-leaves lyre-shaped, smooth; stem-leaves heart-shaped-oblong, embracing the stem, a little toothed. Empal. expanding, approaching to that of *Sinapis*. LINN.—Stem somewhat branched, cylindrical, smooth, about 2 feet high. Leaves smooth, sea-green. Empal. yellowish green. Summit a flattened knob. Pod, with frequently 3 or 4 warty excrescences, not occasioned merely by the bulk of the inclosed seeds. A variety with the leaves hairy at the edge. WITH.—Blossoms yellow.

Wild Navew. Rape. Nape.

* This figure is referred to by Hudson, but Jacquin considers it as a new species, which he calls *B. austriaca*, observing, that the angles at the base of the leaves are rounded, and not pointed, as in the figure of the Fl. dan. which Linnæus cites as representing his *B. campestris*. He adds too, that the flowers are not in bunches as represented in that figure, but in broad-topped spikes, a few flowering at a time. St.

† I am suspicious of this reference, and Mr. Hudson does not cite it. Mr. Woodward.

On ditch banks, and among corn.

B. May.

Cows, Goats, and Swine eat it.

The roots of the cultivated variety may be eaten like the Turnep, but they have a stronger taste, and its seeds, which are called *Cele-feed*, afford a large quantity of expressed oil, called Rape Oil. What remains after the expressing of the oil is called *Oil Cake*, and is used for fattening oxen. In Norfolk the cakes are broken to pieces and strewed on the land as a manure. It is thought to be a very efficacious one, and is sold from 4l. to 6l. per ton. About half a ton is laid on an acre. Mr. WOODWARD.

Turnep BRAS'SICA *Ra'pa*. The root a continuation of the stem, round, depressed, fleshy.—

Blackw. 231.—*Fuchf.* 212, *cop. in Trag.* 728.—*Matth.* 435, imitated in *Dod.* 673. 1, *repr. in Lob. obs.* 98. 1, *ic.* 197. 1, *Ger. em.* 232. 1, and *cop. in H. ox.* iii. 2. row 2. 1, *Pet.* 45. 7; and again imitated in *Ger.* 177. 1.—*Ger.* 177. 2..

Root-leaves rough, deeply indented. Empalement yellow. Bloss. yellow.

β. Roots oblong.

J. B. ii. 838.—*Matth.* 436, imitated in *Dod.* 673. 2, *Lob. obs.* 98. 2, *ic.* i. 197. 2, *Ger. em.* 232. 2, and *cop. in H. ox.* iii. 2. row 3. 2: f. 1, and *Pet.* 45. 8.

Turneps. *Knolles.*

Corn fields, and borders of corn fields.

B. April.

The roots are eaten either raw, boiled, or roasted. Pepper is commonly used with them. They relax the bowels, and are supposed to sweeten the blood. They are hurtful to pregnant or hysterical women, and to those who are subject to flatulencies. The juice, well fermented, affords, by distillation, an ardent spirit. The rind is acrimonious. If the roots are kept in sand, or in a cellar, during the winter, they send out white shoots and yellowish leaves, which, being rather sweet, and not unpleasant to the palate, are used as salad, when other esculent plants are not to be had. But the greatest use of Turneps is in feeding Oxen and Sheep in the winter. A Horse refused the young plants, as well as the stalks in flower. *Str.*

common BRAS'SICA *oleracea*. The root a continuation of the stem, cylindrical, fleshy.—

sea α. *sylvestris*.

Pet. 45. 6.

Stem-leaves very much waved, and variously indented, sea-green, with frequently a mixture of purple, the lower somewhat egg-shaped,

shaped, fitting; the upper mostly strap-shaped. Flowers large. *Empal.* leaves egg-shaped, broad, yellow. *Bloss.* yellow. *Pods* short, swelling. Mr. WOODWARD.—Seeds dusky purple.

Sea Colewort. Sea Cabbage.

Cliffs on the sea coast. Dover Cliffs, RAY.—Near Harleck Cast. Merionethshire; Penzance, and other places in Cornwall. HUDS.

Early in the spring the Sea Cabbage is preferred before the cultivated kinds; but, when gathered on the sea coast, it must be boiled in two waters, to take away the saltiness. When old it occasions giddiness. The roots may be eaten like those of the preceding species, but they are not so tender. The different varieties of cultivated garden Cabbage originate from this, all of which are much in use at our tables. The Red Cabbage is chiefly used for pickling. In some countries they bury the White Cabbage when full grown in the autumn, and thus preserve it all winter. The Germans cut them to pieces, and along with some aromatic herbs and salt, press them close down in a tub, where they soon ferment, and are then eaten under the name of Sour Crout.—The Cabbage, whilst young, is food for the *Chrysomela saltatoria*, and afterwards for the *Papilio Brassica*. The former may be kept off by strewing the ground with foot; and it is said the latter will not touch the plants if they are whipped with the green boughs of Elder. If Cabbages are sowed or planted for several years together in the same soil, the heads become smaller and the roots knotty. This is occasioned by the larvæ of flies.—A Horse eat the leaves, but did not seem fond of them. ST.—Cows grow fat upon them.

BRAS'SICA *muralis*. Leaves spear-shaped, indented-wall serrated, smoothish. Stem upright, smooth. HUDS. CURT.—roughish, ascending. LINN. ST.—Leaves indented or with winged clefts. ST.

Curt. iii. 27.—Barr. 131, all the leaves indented.—Fuchf. 262, cop. in J. B. ii. 861.—Ger. 191. 2.—Matth. 531. cop. in Dod. 708. 2, which repr. in Lob. obs. 102. 1, ic. i. 204. 2, Ger. em. 246. 2, which cop. again in Park. 818. 1.*

* Barrellier's figure is the only one referred to by Linnæus. Mr. Curtis refers Matth. J. B. Ger. em. and Park. Ray to Ger. Park. and J. B. and Mr. Hudson to Ger. em. Park. and Barr.—Linnæus, indeed, refers Fuchsius's figure both to *Sisymbrium tenuifolium* and *B. Erucastrum*, and this as well as Matth. Dod. Lob. and Ger. are given by C. B. to what Linnæus has named *B. Erucast.* but the leaves in Fuchf. are not *runcinata* as in *B. Erucastrum*, nor the segments long strap-shaped, and free from serratures, as they are in *S. tenuifolium*.—J. ii. 852. 3, is the best figure of *B. Erucastrum*. ST.

TETRADYNAMIA SILIQUOSA.

Stems sprinkled with a few stiff hairs, branched and leafy above the base. Leaves tooth-ferrated, or imperfectly and very distantly ferrated, on leaf-stalks, smooth, sprinkled underneath with some scattered hairs, of a pot-herb-like appearance. Flowering-stalks long, at first drooping, and then ascending. Empalement half expanding, with a few hairs, vaulted at the top. Blossoms yellow, very blunt, as large as the diameter of the leaves. Pods thickish, slightly compressed; valves imperfectly keeled. Differs in but very few respects from the *Sisymbrium monense*. LINN. MR. WOODWARD.

—Very much branched from the root. Branches woody. Leaves with nearly winged clefts. MR. WOODWARD.—Stem $1\frac{1}{2}$ foot high, upright, cylindrical, woody at the base. Leaves with winged clefts and jagged, smooth, expanding, of a disagreeable scent. Empal. 2 of the leaves almost upright; 2 hunched at the ends, bent back; before the blossom is expanded appearing as if tipped with 2 horns from the projecting points of 2 of the leaves, which are beset with 2 or 2 hairs. Petals of the larger size, twice as large as the empalement, yellow, with claws. Shaft very short. Pods $1\frac{1}{2}$ inch long, round, marked on each side with a prominent line. Seeds egg-shaped, slightly compressed. CURT.—Leaves, segments of those with winged clefts strap-shaped-oblong, expanding, toothed, and sometimes quite entire, the terminating one broader, spear-shaped, indented. ST.

Sisymbrium murale, LINN. which see.

Wild Rocket. RAY.

Old walls and rubbish. Walls of Yarmouth, RAY, [MR. WOODWARD,] Chester, Taunton Castle, Lichfield Clove, Berwick, &c. RAY,—and about London, Bristol, and Exeter. HUDS.

A. LINN. P. HUDS. CURT. May—July.

All the parts of this plant are considerably acrid, and have a rank disagreeable smell.

Isle of Man · BRASSICA *monensis*. Leaves with winged clefts, wings cut-ferrated. Stem nearly naked, trailing. HUDS.—Leaves indented and winged. GOUAN. ST.

Lightf. 25. 1. at p. 347, excellent.—Pet. 46. 7, in fruit.—Dill. elth. 111. 135, has leaves with winged clefts, and segments very entire, a state in which I have not seen it.*

* Dillenius's plant accords much better with the Linnæan character, and is, I am inclined to believe, a distinct plant from that of Lightf. and Pet. It corresponds very exactly with some of my specimens of *B. muralis*. ST.

IV. CHIVES LONGER, S. VESS. a POD.

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Very much accords with *S. murale* in the size of the plant, leaves, flowers, and fruit. *Root* perennial. *Leaves* with almost winged clefts, being divided more than half way to the mid-rib, strap-shaped, beset with a few hairs; wings remote, bluntish, mostly 7. *Stalks* upright, smooth. *Empalement* closed. *Petals* yellow, entire. LINN.—*Stems* and *leaves* beset with a few hairs. HUDS.—*Stem* smooth, reclining, from the centre of the leaves, 10 or 12 inches long, with commonly one leaf towards the base. *Root-leaves* with generally a few scattered hairs, especially about their leaf-stalks; *wings* 5 or 6 pair, oval, pointed, deeply indented, some alternate, some opposite, increasing in size towards the end, the terminating one larger, with 3 slight lobes, which are indented; the *stem-leaf* with strap-shaped wings, a little indented at their lower edges. *Empalement* hairy at the top. *Petals* twice as long as the empalement. LIGHTF.—*Stem* with sometimes 1 or 2 branches, the uppermost more than half way up the stem. *Leaves* in all the specimens I have seen winged; *wings* oblong-spear-shaped; slightly running down the mid-rib, horizontal or widely expanding, tooth-ferrated, on the hinder edge frequently cut; teeth expanding, pointed, the lowermost sometimes bent back; those of the stem-leaves or branches strap-shaped, with now and then a saw-like tooth. ST.

Sea shores in sandy soil. Between Ramsey and the town. Sella Fields Sea-bank, Cumberland, between Marsh Grainge and the Isle of Walney, near Abermeny Ferry, Anglesea. RAY.—Isles of Bute, Skye, and Arran, and in Cantire. B. P. HUDS. May—July.

The different species afford nourishment to the *PAPILIO Brassica*, *Rapæ*, and *Napi*; *PHALÆNA fuliginosa*; *APHIS Brassicæ*; and *CHRYSOMELA Hyoscyami*.

885. SINA'PIS. Mustard.

EMPAL. Cup 4 leaves; expanding; strap-shaped; concave; channelled; standing cross-ways and expanding; deciduous.

BLOSS. 4 petals; forming a cross; circular; flat; expanding; entire. Claws upright; strap-shaped; rather shorter than the cup; fitting. Honey-cup Glands 4; egg-shaped; 1 between each shorter chive and the pointal; and 1 between each pair of longer chives and the cup.

CHIVES. Threads 6; awl-shaped; upright; the 2 opposite ones as long as the cup; the other 4 longer. Tips upright; but expanding; tapering.

POINT. Seed-bud cylindrical. Shaft as long as the seed-bud, and as tall as the chives. Summit a knob; entire.

S. VESS. Pod oblong; with protuberances on the lower part; rough. Cells 2. Valves 2. Partition large; compressed; generally twice as long as the valves.

SEEDS many; globular.

ESS. CHAR. Empalement expanding. Bloss. claws upright.*
A gland between the shorter chives and the pointal, and between the longer and the empalement

Obs. Differs from *Brassica* in its expanding empalement, and the upright claws of the blossom.

Charlock SINA'PIS *arvensis*. Pods with many angles, swollen and bunched out by the seeds, smooth, longer than the 2-edged bill. LINN.—Pods sometimes a little hairy. RELH.

Fl. dan. 753.—Fuchs. 257, cop. in J. B. ii. 844, and Dod. 675. 1, which repr. in Ger. em. 233. 2.—Ger. 199.—Lob. obs. 99. [1, repr. in ic. i. 198. 2, and cop. in Park. 862. 3, H. ox. iii. 3. 7, and Fet. 45. 12.—(Fl. dan. 678, and Ger. 199 and 179. 2, are *Raphan. Raphanistr.* as is evident from the dark lines on the petals.—Matth. 451, is *S. nigra*.)

Empal. leaves slightly compressed. RELHAN.—Differs from *Raphanus Raphanistrum* as follows: Stem one third taller, finely scored, commonly of a deep red, often simple. Flowers smaller. Empal. spreading. Petals always yellow, and without veins, CURT. Mr.

WOODW.—

WOODW.—*Stem* green, rough with a very few stiff hairs. *Leaves* without any cast of sea-green. *Pods* swollen, not angular. *Empal.* yellow, half as long as the petals. MR. WOODW.—*Leaves* harsh; deeply indented and serrated. *Seeds* brown.

Charlock. Chadlock. Wild Mustard. Corn Calt.

Corn fields, and borders of corn fields.

A. May.

The Scandinavians boil and eat it as Cabbage, and in Ireland, the tender tops are collected for the same purpose.

Cows, Goats, and Swine eat it. Sheep are very fond of it. Horses generally refuse it.

SINA'PIS *alba*. Pods rough with hair, with a very white long, slanting, sword-shaped bill.

Blackw. 29.—*Ger. em.* 244. 4, *cop. in Pet.* 45. 10.—*Fuchf.* 538, *cop. in J. B.* ii. 856, and *Trag.* 101. 1.—*Lonic.* i. 164. 2.—*Matth.* 563, imitated in *Dod.* 707. 1, which repr. in *Lob. obs.* 100. 2, and *ic.* i. 203. 1, *Ger. em.* 244. 2, and *cop. in H. ox.* iii. 3. row 1. 2.

Bunches and *fruit-stalks* scored. *Pods* with 3 knots, somewhat keeled; hairs expanding; *bill* keeled, even as far as the last joint. LINN.—*Leaves* rough, all deeply indented or lobed, and frequently with a pair of small wings on the leaf-stalk. *Pods* bunched with the seeds; *beak* scored, dark green, with a few hairs. MR. WOODWARD.—*Stem* strong, hard, nearly cylindrical, branched, set with strong hairs pointing downwards. *Leaves* rough with strong hairs, deeply divided, segments 3 or 5, the terminating one very broad, large, toothed, and indented. *Fruit-stalks* set with strong hairs pointing downwards. *Empal.* leaves upright, opening a little at the top, yellow or purplish, prickly. *Petals*, limb inversely egg-shaped. *Seeds* white or reddish. WITH.

Corn fields, and road sides.

A. Aug.

It is sown in the winter, and early in the spring, to supply our tables with fallading. The seeds have nearly the same properties as those of the next species.

SINA'PIS *ni'gra*. Pods smooth, laid to the spike- common stalk.—

Blackw. 446.—*J. B.* ii. 855.—(*Matth.* 562, *cop. in Dod.* 706. 2, repr. in *Lob. obs.* 100. 1; *ic.* i. 202. 2, *Ger. em.* 244. 1, *cop. in Park.* 831. 1, *Pet.* 45. 11, and *H. ox.* iii. 3. row 1. 1, are very properly omitted by Ray, as is evident from the expanding fruit-stalks.)

Lower-leaves rough, deeply indented; the upper smooth, entire.

BERK. bot. arr. ed. i.—*Stem* very much branched; branches distant,

2 A 3

expanding.

expanding. *Root-leaves* rough; *stem-leaves* smooth. *Pods* short, parallel. *RELHAN*.—*Stem* cylindrical, scored, upper part smooth. *Leaves*, the upper frequently simple, spear-shaped, sharply toothed. *Pods* slightly hairy; *bill* smooth. *Fruit-stalks* short. *Mr. Woodw.* *Cups* yellow. *Bloss.* pale yellow.

Corn fields, ditch banks, road sides, [and banks of the Severn. ST.] A. June.

The seeds, reduced to powder, make the common mustard, so much in request at our tables. They yield a considerable quantity of expressed oil, which partakes but little of the acrimony of the plant. The seeds, when unbruised, impart but little taste to boiling water. Taken inwardly, in the quantity of a meat spoonful or more, they gently loosen the bowels, and are of service in asthma, chronic rheumatism, and palsy. The powdered seeds curdle milk, and give a strong impregnation to boiling water. This infusion, taken in considerable quantity; vomits; in smaller doses it is an useful aperient and diuretic. Cataplasms, formed with crumb of bread, vinegar, and powdered mustard seed, are very commonly applied to the soles of the feet, as stimulants, in fevers that require such treatment; they are used with advantage, topically applied, in fixed rheumatic and sciatic pains. Upon the whole, wherever we want a strong stimulus, that acts upon the nervous system, without exciting much heat, we know none preferable to mustard seed. Its acrimony consists in an essential oil.

The *Phalæna fuliginosa* lives upon the different species.

886. RAPH'ANUS. Radish.

EMPAL. *Cup* 4 leaves; upright; oblong; parallel; approaching; deciduous; hunched at the base.

BLOSS. 4 *petals*; forming a cross; inversely heart-shaped; expanding; *claws* a little longer than the cup. *Honey-cup Glands* 4; 1 between each shorter chive and the pointal; and 1 between the longer chives and the cup, on each side.

CHIVES. *Threads* 6; awl-shaped; upright; 2 as long as the cup; the other 4 as long as the claws of the blossom. *Tips* oblong; upright; arrow-shaped.

POINT. *Seed-bud* oblong; distended; tapering; as long as the chives. *Shaft* hardly perceptible. *Summit* a knob; entire.

S. VESS. hunched; oblong; ending in a point; smooth; distended with several protuberances, so as to appear almost jointed.

SEEDS roundish; smooth.

ESS. CHAR. *Empalement* closed. *Pod* protuberant; mostly jointed; cylindrical. *Honey-cup Glands*, 2 between the shorter chives and the pointal; and as many between the longer chives and the empalement.

RAPH'ANUS *Raphanistrum*. Pods round, jointed, wild smooth, of 1 cell, LINN.—originally of 2 cells, but, as the seeds increase in size, the partition becomes obliterated. HALL. POLLICH. MR. WOODWARD.

Curt. iv. 45.—Linn. amoen. acad. vi. at p. 451.—Fl. dan. 678.—J. B. ii. 851. 1.—Ger. 179. 2.—Lob. ic. i. 199. 1, repr. in Ger. 247. 1, and abridged in Pet. 46. 10.—Ger. 199.—Park. 863. 4, cop. in H. ex. iii. 13. 1 and 2.—Park. 863. 5, cop. in H. ex. iii. 13. row 2. 4. f. 4.—(Ger. 185. 1, is surely more like *Sinapis arvensis*.)

Stem rough with transparent hairs pointing backwards. Leaves sometimes rough with hairs; the lower lyre-shaped, wings alternate, heart-oblong, serrated, the lowermost very small, the odd one very large, rounded at the end, scolloped; the upper oblong-spear-shaped, scollop-serrated. Leaf-stalks generally rough with hairs. Empalement rough with white hairs, very smooth at the base. Bloss. generally yellow, but sometimes white or violet, with blackish veins. Pod, joints falling off separately. LINN.—Differs from the *Sinapis arvensis* as follows: Stems even, and usually sea-green,

TETRADYNAMIA SILIQUOSA.

generally branched from the bottom. *Empalement* upright, close. *Bloss.* white, and pale red, as well as yellow, and all in general striped with purplish veins. CURT.—*Plant* generally of a seagreen cast. *Petals* of whatever colour, veined with dark lines. Mr. WOODWARD.—*Bloss.* yellow and straw-coloured.

α. Blossoms white.

White-flowered Charlock.

β. Blossoms pale yellow.—Amongst corn. A. June. July.

In wet seasons it grows in great quantity amongst the Barley, in Sweden, and the common people who eat barley bread, are afflicted with very violent convulsive complaints in those provinces, and in those seasons wherein this plant abounds. *Amoen. acad.* vi. 430.—Horses eat it. Cows refuse it.

γ. HUDS. Under the cliffs by the sea side, about half a mile from the Fisher-houses at Bourn, Suffex. *R. syn.*

4?

Pet. 46. 11.

Great White Charlock. PET.

Raphanistrum siliqua articulata, striata maxima. *R. hist.* 806. 4. (PET.)

887. BU'NIAS. Rocket.

EMPAL. *Cup* 4 leaves; oblong-egg-shaped; expanding; deciduous.

BLOSS. 4 *petals*; forming a cross; inversely egg-shaped; twice as long as the cup. *Claws* taper; upright.

CHIVES. *Threads* 6; as long as the cup; the 2 opposite ones not quite so long. *Tips* upright; cloven at the base.

POINT. *Seed-bud* oblong. *Shaft* none. *Summit* blunt.

S. VESS. *Pod* irregular; oblong-egg-shaped; with 4 sides; edges with 1 or 2 sharp points; not opening; deciduous.

SEEDS few; roundish; 1 placed under each point of the pod.

ESS. CHAR. *Pod* falling off; 4-sided; beset with unequal taper-pointed angles.

sea BU'NIAS *Ca'hile*. Pods egg-shaped, smooth, 2-edged.

Lob. obs. 110. 3, repr. in ic. i. 223. 1, *Ger. em.* 248. 5, and cop. in *Park.* 821. 1, *H. ox.* iii. 6. 20, and *Pet.* 46. 6.—*J. B.* ii. 868. 1.

Plant smooth, sea-green, of a salt taste. *Leaves* fleshy. *Pods* falling off, and leaving a cloven base behind. LINN.—*Root* slender, woody,

woody, running deep into the sand, and terminated by a few rigid fibres. *Stem* woody, much branched. *Leaves* oblong-wedge-shaped, sitting, deeply cut, or with winged clefts. *Flowers* pale purple. *Fruit-stalks* short. *Pods* large, and fleshy. Mr. Woodw.

Sea shore, [in deep sand, frequently just above high water mark. Yarmouth, Norfolk; Southwold, Suffolk. Mr. Woodward.]

A. June. July.

Horses eat it.

888. I'SATIS. Wood.

EMPAL. *Cup* 4 leaves; egg-shaped; rather expanding; coloured; deciduous.

BLOSS. 4 *petals*; forming a cross; oblong; blunt; expanding; gradually tapering into *Claws*.

CHIVES. *Threads* 6; upright; but expanding; as long as the blossom; but 2 of them not quite so long. *Tips* oblong; lateral.

POINT. *Seed-bud* oblong; 2-edged; compressed; as long as the shorter chives. *Shaft* none. *Summit* a blunt knob.

S. VESS. *Pod* oblong-spear-shaped; blunt; compressed; 2-edged; with 1 cell; not opening. *Valves* 2; boat-shaped; compressed; keeled; deciduous.

SEED single; egg-shaped; in the centre of the seed-vesfs.

ESS. CHAR. *Pod* spear-shaped; of 1 cell; with 1 seed; falling off. *Valves* 2; boat-shaped.

I'SATIS *tinctoria*. Root-leaves scolloped; stem-leaves arrow-shaped. Pouches oblong. LINN.—Root-leaves finely toothed. POLLICH.

α Fuchs. 332, cop. in J. B. ii. 909. 2, Matth. 635, Dod. 79. 2, which repr. in Lob. obs. 190. 1, ic. i. 352. 1, Ger. em. 491. 2, and cop. in Pet. 48. 9.

Glastrum sylvestre GER. em. 491. PARK. 600. (ST.)

β Fuchs. 331, cop. in J. B. ii. 909. 1, Matth. 634, and Dod. 79. 1, which repr. in Lob. obs. 189, ic. i. 351. 2, Ger. em. 491. 1, and cop. in Park. 600. 3, and abridged in Trag. 256.—Ger. 394.—H. ox. iii. 15. 10 and 11.—Blackw. 246.—Lonic. i. 149. 1.

Pods on slender fruit-stalks, hanging down. Mr. Woodward.

—*Stem* branched. *Leaves*, the uppermost strap-spear-shaped.

Empalement yellow. *Petals* notched at the end. *Pods* chestnut-coloured. *Bloss.* yellow. WITH,

Wood

Wood.—Corn fields, and borders of corn fields, but rather rare.
Huds.—New Barns, near Ely. *RELHAN.* B. June. July.

With the juice of this plant the ancient Britons painted their bodies to render themselves more terrible to their enemies. It is much used by the dyers for its blue colour, and it is the basis of many other colours.

Cows eat it. Horses, Sheep, and Goats refuse it.

889. C RAM'BE Colewort.

EMPAL. *Cup* 4 leaves; egg-shaped; channelled; rather expanding; deciduous.

BLOSS. 4 *petals*; forming a cross; large; blunt; broad; expanding. *Claws* upright, but standing open; as long as the cup.

CHIVES. *Threads* 6; 2 of them as long as the cup; the other 4 longer than the cup, and cloven at the end. *Tips* simple; fixed to the outermost division of the threads. *Honey-cup Glands* placed on each side; between the blossom and the longer chives.

POINT. *Seed-bud* oblong. *Shaft* none. *Summit* rather thick.

S. VESS. *Berry* dry; roundish; of 1 cell; deciduous.

SEED single; roundish.

ESS. CHAR. *The 4 longer threads forked at the point; 1 of the forks bearing a tip. Berry* dry; globular; falling off.

sea C RAM'BE *marit'ima.* Leaves and stem smooth.

LINN.—Leaves roundish-egg-shaped, waved, fleshy.

Huds.

Fl. dan. 316.—*Ger.* 248. 16, *cop. in Pet.* 48. 12.—*Ger. em.* 315. 15, *cop. in H. ox.* iii. 2. 16.—*Park.* 270. 4. *b.*—*Lob. adv.* 92, *repr. in ic.* i. 245, *cop. in Park.* 270. 4. *a.* *Ger.* 248. 15, and *J. B.* ii. 830. 2; the pods represented as spear-shaped.

This plant lurks as it were under the larva of a *Brassica*, as is evident from its fructification being so distinct. *LINN.*—Whole plant smooth. Stems many, spreading and much branched. Root-leaves on leaf-stalks, very large, spreading wide on the ground, variously waved, jagged, and indented, smooth, sea-green, sometimes tinged with purple; stem-leaves sitting. Fruit-stalks long. Flowers white. Pod at first egg-shaped, terminated by a blunt summit, afterwards nearly globular. *Mr. Woodw.*—*Bloss.* white.

Sea Colewort.

Sandy sea shores. [Roofbeck in Low Furness, Lancashire.
Mr. WOODWARD.—Near Mevagissey, Cornwall. Mr. WATT.]
P. May. June.

The young and tender leaves are boiled as Cabbage, but when full grown they occasion giddiness.

Horses, Cows, Goats, Sheep, and Swine eat it.

There is one variety with jagged leaves, and another with yellowish blossoms.

Chifs

Class XVI.

MONADELPHIA.

THREADS UNITED.

IN this Class the *Threads* are all united together at the bottom, but separate at the top. The *ORDERS* are determined by the number of *Chives*. The *Flowers* admit of the following

NATURAL CHARACTER.

EMPAL. *Cup* always present; permanent; in many instances double.

BLOSS. *Petals* 5; inversely heart-shaped; the edge of one lying over the edge of the next, from the right to the left.

CHIVES. *Threads* united at the bottom; separate at the top. The outer ones the shortest. *Tips* fixed sideways to the threads.

POINT. *Receptacle* of the fruit projecting in the centre of the flower. *Seed-buds* upright; surrounding the top of the receptacle in a jointed circle. *Shafts* united at bottom into one body with the receptacle; but separated at the top into as many parts as there are seed-buds. *Summits* expanding; slender.

S. VESS. *Capsules* divided into as many cells as there are shafts; of various figures in different genera; and often composed of the same number of seed-coats united.

SEEDS kidney-shaped.

OBS. The plants of this natural Class were considered by Tourn. as having only 1 petal. But all the petals are distinct at the base, though, by the intervention of the united threads, they cohere all together as one body, on which account they may more properly be considered as having 5 petals. LINN.—The petals are truly a continuation of the cylindrical sheath formed by the united threads, which incloses the shafts, and seed-bud as it descends, when rising upwards, it spreads out into petals. WITH. ST.

The

The plants of the 6th Order are mucilaginous and emollient, and these properties are common to every part of the plant. None of them are poisonous.

Order IV.

DECANDRIA; X. CHIVES.

897. GERA'NIUM. 1 pointal. *Caps.* 5 dry berries;
with a long bill.

† Spartium. Genista. Anthyllis. Ulex. Ononis.

Order VI.

POLYANDRIA; MANY CHIVES.

907. LAVATE'RA. Many pointals. *Outer Cup* with
3 clefts. *Seed-coats* in whorls;
1 seed in each.

906. MAL'VA. Many pointals. *Outer Cup* 3
leaves. *Seed-coats* several; in
whorls; 1 seed in each.

904. ALTHÆ'A. Many pointals. *Outer Cup* with
9 clefts. *Seed-coats* in whorls;
1 seed in each.

Order

Order IV.

DECANDRIA; X. CHIVES.

897. GERA'NIUM. Cranes-bill.

EMPAL. *Cup, leaves* 5; egg-shaped; sharp; concave; permanent.

BLOSS. *Petals* 5; inversely heart-shaped; or egg-shaped; expanding; large.

CHIVES. *Threads* 10; awl-shaped; expanding towards the top; alternately longer and shorter; shorter than the blossom. *Tips* oblong; turning about like a vane.

POINT. *Seed-bud* with 5 angles and a bill. *Shaft* awl-shaped; longer than the chives; permanent. *Summits* 5; reflected.

S. VESS. none. *Fruit* 5 dry berries; with a bill.

SEEDS solitary; kidney-shaped; often furnished with a dry husky coat, and a very long awn, which, after some time, rolls up spirally.

ESS. CHAR. *Pointal* 1. *Summits* 5. *Fruit* with a bill; and 5 dry berries.

Obs. In some species, only every other chive is furnished with a tip. The awn of the seed, in some species, is hairy, in others smooth. In the three first species, the petals are not quite equal; there is a little gland between each petal; the threads are 10, but only every other furnished with a tip; the flowers growing in run-dles, the seeds naked, and the awns hairy. In the 14th species, only 5 of the threads have tips.

* 5 of the chives furnished with tips. Empal. of 5 leaves. Fruit declining.

hemlock GERA'NIUM *cicutarium*. Fruitstalks with many flowers. Chives 5. Leaves winged, cut, blunt. Stem branched.—

Curt. i. 9, in its middle state of growth.—Fuchs. 204, cop. in J. B. iii. 479, grown to its full extent, in a rich soil.—Dod. 64. 1, repr. in Lob. ic. 659. 1, and Ger. em. 945. 3, and cop. in Pet. 65. 3, and H. ox. v. 15. 9, in its earliest state, in sandy soil.—Ger. 800. 3, and also 4 the variety with white flowers, in its middle state of growth and luxuriance.

Petals

Petals entire, somewhat raised from the empalement, the 2 uppermost marked with a spot at the base, which mark is so striking as to induce me to doubt whether the *G. pimpinellæ folio* of Dillenius, and the *G. moschatum*, which have the same spots, are really distinct species. LINN.—*Petals* nearly regular, purple, with purple scores. POLLICH.—*Plant as it is found in the spring.* Stem none. Stalk rising from the root. *Petals*, the 2 upper marked with a spot. *Plant as found in autumn.* Stem branched, trailing. *Petals*, all without spots. Honey-cup scale very small. LEERS.—*Petals* 2, and sometimes 3, marked with a blackish green spot towards the base. RELH.—*Plant* varying from nearly smooth to very hairy in a good soil, or on rubbish large, very much branched, with a bundle bearing many flowers, but on sandy heaths small, and nearly simple, with a bundle of few flowers. *Leaves* winged; wings with winged clefts, the lower distant, somewhat alternate; the upper crowded, opposite; little wings spear-shaped, pointed, jagged. *Petals* very entire, nearly equal. MR. WOODWARD.—*Leaves* not ending in a sharp point. Seed-coat elegantly set with yellowish hairs, and marked with a hollow dot on each side the base of the awn. WITH.

Among the numberless instances of obvious providential design and contrivance, in the structure of the seeds and seed-vessels of plants, few are, perhaps, more remarkable, or more strikingly display themselves as the workmanship of an intelligent artificer, than that which we meet with in the seeds of the *Geranium cicutarium*, *moschatum*, and, perhaps, in some other species of *Geranium*. The seeds of this genus surround the pointal at its base; each seed is covered with a distinct seed-coat peculiar to itself, which, after having inclosed the seed, runs out in the form of a narrow appendage or tail, to the extremity of the shaft, to which it is slightly connected along its whole length, and which has 5 grooves or flutes to receive the 5 seeds with their appendages. Each of these appendages has the property of contracting itself into a spiral or screw-like form, when dry; and of again extending itself into a right line, when moist. In short, it is a spiral spring, which lengthens or contracts itself alternately, as often, and in such proportion, as it happens to become wet or dry. This power first exerts itself when the seed and its appendage becomes dry, in consequence of arriving at maturity; when it gradually separates the seed from its parent plant. The seed, thus disengaged, is continually contracting and dilating itself, as the weather changes from wet to dry, and from dry to wet; and by this means is kept in motion, till it is either destroyed by the vicissitudes of the seasons, or meets with some crevice in the earth, or some light porous spot, into which it can easily insinuate itself, and from thence, in due time,

time, produce a new plant. The particular minutiae of the mechanical structure and operations of this curious seed will be better understood by inspection, than by the most accurate and laboured description: and all its manœuvres may be seen in a short space of time, by alternately moistening and drying it; which may be readily done, by putting a little water on one edge of a white stone or china plate, and removing it by turns from the dry to the moist, and from the moist to the dry part of the plate: or the changes may still more quickly be produced, by removing it from the wet to a fresh plate, and drying it before a fire. I mention a white plate, because on that, I imagine, the fine hairs which display themselves from the sides of the tail, as that contracts, and which act as fulcra, or feet, to assist and direct the seed in its motions, are most easily distinguished. Dr. ARNOLD.

Road sides, fields, walls, and rubbish, in a sandy soil.

P. Apr.—Aug.

Cows and Horses eat it. Sheep are not fond of it. LINN.

A Horse refused it. ST.

β HUDS. Flowers larger. Blofs. white. Stems thicker. Leaves not so finely cut. RAY.—Leaves hoary with white hairs, possibly the effect of the sea air. Mr. WOODWARD.

Near Camberwell. RAY.—Sea banks near Weens, Fishshire. LIGHTF.—[On Yarmouth Denes very plentifully, and elsewhere within the distance of a few miles from the sea. Mr. WOODW.]

γ HUDS. and β LINN.

G. pimpinellifolium. CURT. which see.

burnet-leaved GERA'NIUM *pimpinellifolium*. CURT. cat. Mr. WOODWARD.—Fruit-stalks with many flowers. Chives 5. Leaves winged, cut. Stem branched. The 2 upper petals spotted at the base.—

Leaves not so deeply divided, scentless. Petals broadish, unequal, the 2 uppermost marked with a greenish spot. DILL.—Leaves, wings with deeper winged clefts than those of *G. cicutarium*; little wings nearly strap-shaped, rarely jagged. Petals, generally the 2 upper shorter and rounder, with a greenish spot at the base, but sometimes only 1, or 3, 4, and in one instance all 5 spotted, in which case the spotted ones are broad and short, and in the last instance the blossom became regular. Mr. WOODWARD.

Geranium pimpinellæ folio. R. syn. 358. (Mr. WOODWARD.)

Near Hackney. DILL.—Sandy heaths and corn fields, Suffolk, frequent. I have cultivated it for several years without observing any variation in it, and Mr. Curtis, who has raised it in his botanic garden from seeds which I sent him, is satisfied that it is a distinct species. Mr. WOODW.

GERA'-

GERA'NIUM *moscha'tum*. Fruit-stalks with many *musk* flowers. Chives 5. Leaves winged, cut. Seed-lobes with winged clefts.—

Jacq. hort. i. 55.—Blackw. 150.—Matth. 856, cop. in Dod. 63. 1, which repr. in Leb. obs. 376. 1, ic. i. 658. 2, Ger. em. 941, and cop. in Park. 709. 1, Pet. 65. 2, and H. ox. v. 15. 10.—Ger. 796.—Trag. 347.—J. B. iii. 479, though a copy of Fuchsius's figure of G. cicutarium, and H. ox. v. 15. 9, though a copy of Dod. 64. 1, are a pretty good representation of it.—(Fuchf. 204, is G. cicutarium. In all except Blackw. the little leaves are too deeply cloven, whence Haller has referred the figure of Dod. to G. cicutarium.)

Very like the *G. cicutarium*, of an ambrosial scent. LINN.—Whole plant more hairy than *G. cicutarium*; hairs glutinous, particularly those of the empalement. Flowers more numerous, forming a roundish head. Pedicles shorter. Leaves, wings fewer, egg-shaped, sometimes only serrated, or jagged, rarely with winged clefts. Mr. WOODWARD.—Whole plant hairy. Stems swollen and crooked at the joints. Leaflets opposite and alternate, the terminating one with 3 clefts. Fruit-stalks with from 4 to 10 flowers, thickly set with fine white hairs, ending in pellucid globules. Empalements set with the same kind of hairs as the fruit-stalks; leaves unequal, ribbed, ending in split-points. Petals with 3 fibres. Tips double. Seed-coat with strong yellow hairs. Bloss. red or purple. WITH.

Musked Cranes-bill. Muscovy.

Dry pastures in Westmoreland and Yorkshire. Near Battersea, and between Bristol and St. Vincent's Rock. [Near Stourbridge. ST.] A. May. June.

The whole plant smells like Musk, but it loses this property when bruised.—A Horse refused it. ST.

GERA'NIUM *marit'imum*. Fruit-stalks with mostly *sea* 3 flowers. Chives 5. Leaves heart-shaped, scolloped, cut, rough. Stems depressed. LINN.—Fruit-stalks with from 1 to 3 flowers. Mr. WOODWARD.

Fluk. 31. 4, cop. in Pet. 65. 1.—H. ox. v. 35. row 3. f. 2.

Rundle often leafy. Petals entire, often wanting. Fruit-stalks with often 2 flowers. LINN.—Stems branched, lying close to the ground. Root-leaves on long fruit-stalks, spreading in a circle on the ground, hairy, variously cut and jagged, sometimes nearly lobed; stem-leaves similar. Fruit-stalks shorter than the leaves. Flowers 1 to 3, small. Beaks very small, not exceeding half an inch in length. Mr. WOODWARD.—Fruit-stalks frequently with only 1 flower,
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flower, as figured in Pluk. ST. WITH.—*Root-leaves* lying on the ground. *Leaf-stalks* much longer than the leaves. *Fruit-stalks* compressed. *Threads* spear-shaped. *Tips* purple. *Summits* greenish-yellow. *Bloss.* pale red. WITH.

Sandy sea shores, common. [Acle, Norfolk. Mr. CROWE.—Rocks at Portawen, Cornwall. Mr. WATT.—Sandy commons between Enville and Bewdley, Worcesterfh. Mr. J. A. HUNTER.]

B. June. July.

** All the 10 chives furnished with tips. *Fruit-stalks* with 2 flowers. Perennials.

duffy GERA'NIUM *phæum*. *Fruit-stalks* solitary,* opposite the leaves. *Empalements* somewhat awned. Stem upright. *Petals* waved. LINN. *syft. veg.*—*Fruit-stalks* with 2 flowers. *Sp. pl.* ST.

Walc.—*Cluf.* ii. 99. 1, repr. in *Ger. em.* 942. 3, and cop. in *Park.* 704 3.—(*Dod.* 64. 2, repr. in *Lob. obs.* 377. 1, ic. i. 661. 1, *Ger. em.* 945. 1, and cop. in *Park.* 704. f. 2, quoted by Ray, and cop. by Hudson, is *G. fuscum*, and docs not so well accord with our specimens.)

Stem upright, from a cubit to 3 feet high, knotty. *Leaves* soft, the younger ones silky, ribbed; the lower ones on long leaf-stalks in pairs, the upper solitary; lobes 5, unequally toothed, the lateral ones lobed. *Flower-scales* flaccid, yellow, egg-spear-shaped, 2 at the base of each fruit-stalk. *Empalement* soft, with a few long hoary hairs. *Petals* nearly 5-cornered, taper-pointed, waved at the edge; *claws* white, with 5 star-like rays. *Threads* hairy about the base. *Glands* 5. HALL. Mr. WOODWARD.—*Stem* with a few long shining hairs. *Fruit-stalks* very slender, mostly 2. Mr. WOODWARD.—*Stems* nearly cylindrical, woolly below, from 18 inches to 2 feet high; joints large, tinged with red. *Leaves*, the lower with 6 or 7 lobes, the middle ones with 4 or 5, the uppermost 3 or 4; lobes ferrated. *Fruit-stalks* forked, with 2 flowers. *Empal.* thick set with short hairs, terminated by little globules, interspersed with a few long, soft, woolly hairs; *leaves* with 3 longitudinal lines, and terminated by little blunt callous substances. *Petals* egg-shaped, blackish purple, shining; *claws* white, marked with 5 lines, and woolly. *Threads* purple, broad and woolly at the base, slightly united by means of 5 green glandular substances placed on the outside of them; after flowering turned outwards. *Tips* whitish, the seams marked with a purple line. *Dust* greenish yellow

* As opposed to those of *G. fuscum*, which are said to be not solitary supporting 2 flowers, but distinct from the base. ST.

THREADS UNITED, X. CHIVES.

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yellow. *Seed-bud* woolly. *Shaft* green, shorter than the chives till the time of flowering, *Seed-coats* hairy. *Seeds* oblong-egg-shaped. WITH.

Mountainous pastures. Tovel near Maidstone. About Clapham, and Ingleton, Yorkshire. P. May. June.

GERA'NIUM *nodo'sum*. Fruit-stalks with 2 flowers. *knotty* Petals nicked. Stem-leaves with 3 lobes, entire, ferrated, shining underneath.—

Clus. ii. 101. 1, repr. in Ger. em. 947. 2, and cop. in Park. 703. 2, J. B. iii. 478. 1, Pet. 65. 4, and H. ox. v. 16. 22.—Clus. ii. 101. 2.—(Ger. 797. 1, not the plant.)

Stems spreading, more compressed than in *G. striatum*. Petals flesh-coloured, with 3 purple scores, running half way to the point. LINN.—Flowers before blossoming hanging down, afterwards upright. HALL. Mr. WOODW.—Stems smooth, shining, swollen at the joints. Leaves, the lower with 5 lobes, the upper with 3 lobes, opposite; lobes spear-shaped, straddling, entire at the base, irregularly ferrated upwards, with 3 strong nearly parallel ribs, and with a few short stiff hairs arising from glands. Leaf-scales and flower-scales alike, small, pointed. Fruit-stalks short. Empal. leaves awned, smooth. Petals red, scolloped; scollops blunt, regular. Mr. WOODWARD.

Mountainous situations in Cumberland. RAY. [Mr. WOODW.] P. July. Aug,

GERA'NIUM *sylvaticum*. Fruit-stalks with 2 flowers. *wood* Leaves somewhat target-shaped, with 5 lobes, cut-ferrated. Stem upright. Petals nicked, LINN.—sometimes quite entire. LIGHTF. ST.

Rose 1. at p. 472, *Geranium palustre*.—Fl. dan. 124.—Clus. ii. 99. 2, repr. in Ger. em. 942. 2.—Ger. 797. 1.

Panicle forked, nearly level. Pedicles much longer than the fence. Empalement awned, as soon as the flowering is over becomes upright, with the points bent back. Bloss. bell-shaped-expanding, violet-coloured, sometimes white, or variegated with white. Shaft not longer than the chives. Flowers at the same time with the Apple-tree. LINN. ST.—Flowers before blossoming hanging down, afterwards upright. HALL. Mr. WOODWARD.—Leaves slightly hairy, the lower with 7 lobes, the middle with 5, the upper with 3. Fruit-stalks with sometimes more than 2 flowers. Floral-leaves awl-shaped, small. Empalements and fruit-stalks very hairy. Petals large. Mr. WOODWARD.—Hairs on the flowering stems, edges of the leaves, and on the empalement, ending in small globules.

globules. *Leaves*. segments terminating in small fleshy glands; the upper sitting. *Empalements* ribbed, membranaceous at the edge, ending in spit-points. *Petals* purple, slightly notched at the end, a little woolly at the base. *WITH*.

Geranium batrachoides alterum. GER. em. 942. (ST.)

Mountainous thickets and pastures in Westmoreland, Cumberland, and Yorksh. and sides of rivers in rocky and shady places. [Holt Wood in Leziate, near Lynn, Norfolk. Mr. CROWE.—About Aysgarth Force, Wensleydale. Mr. WOOD.—Near Conistone, Lancashire, and elsewhere in the North. Mr. WOODW.—Corby Castle, Cumberland. ST.—Near Hales Owen, Shropsh. *WITH*.]

P. June. July.

Cows, Goats, Sheep, and Swine eat it. Horses refuse it.

2. Dwarf; with very large flowers. LIGHTFOOT.

Scotland.

Crowfoot

GERA'NIUM *pratense*. Fruit-stalks with 2 flowers. Leaves somewhat target-shaped, with many divisions, wrinkled, pointed. Petals entire.—

Curt. iv. 43.—Matth. 857, imitated in Clus. ii. 100. 1, which repr. in Dod. 63. 2, Lob. obs. 376. 3, ic. i. 659. 2, Ger. em. 943. 1, and cop. in Pet. 65. 7.—Walc.—Ger. 797. 2.—Fuchs. 208, cop. in J. B. iii. 475.—H. ox. v. 16. 14.

Pedicles while it is in blossom not longer than the fence. *Empal.* awned, after flowering closed, nodding. *Bloss.* flat. *Petals* blue, rounded at the end, not nicked. *Shaft* longer than the chives. Begins to flower when the *G. sylvaticum* is going out. LINN.—*Stem* 2 to 3 feet high. *Leaves* with 7 to 5 divisions; segments lobed, deeply toothed, hairy, with strong ribs underneath; those of the upper leaves almost strap-shaped. *Leaf-stalks* long. *Floral-leaves* 4, spear-shaped, pointed. *Fruit-stalks* very short, downy. *Empal.* spear-shaped. *Petals* very large, blue, or white. Mr. WOODW.—*Stems* forked, tinged more or less with red; hairs on the upper branches white, and terminated by minute dark red globules. *Leaves* with 5 to 7 divisions; segments with winged clefts, which are more or less jagged and toothed. *Empalements* ribbed, membranaceous at the edges, terminated by spit-points, thick set with fine white hairs tipped by scarlet globules. *Petals* inversely egg-shaped, with 7 to 9 whitish lines, and a little hairy at the base. *Threads* very broad, and somewhat concave at the base. *Tips* purple. *Dust* yellow. *WITH*.

Moistish meadows and pastures.

P. June. July.

Horses, Cows, Goats, Sheep, and Swine eat it.

GERA'NIUM

GERA'NIUM pyrenæicum. LINN.—Fruit-stalks with *mountain*
2 flowers. Petals with 2 lobes. Lower-leaves with 5
jagged divisions, the upper with 3 lobes. Empalements
somewhat glandular at the points. Stem upright. HUDS.

Curt. iii. 27.—Ger. prov. 16. 2.

Stems woolly. Leaves with 5 clefts, cut, bluntish, red at the
edge. Empal. glands at the points red. Petals as long again as
the empalement, purplish. Chives, the 5 outermost shorter, with
abortive tips. GOUAN.—Twice as large as *G. molle*, always nearly
upright. Blofs. thrice as large as that of the *G. molle* commonly is.
CURT.—Stem hairy. Leaves hairy, the lower with mostly 7 lobes;
lobes with 3 clefts, segments rounded or blunt, the middle one
frequently fcolloped, the upper with mostly 3 lobes; lobes with 3
clefts, more expanding than in the lower leaves, segments entire,
more pointed than in the lower leaves. Fruit-stalks longer than the
leaves. Floral-leaves pointed, 4 to each fruit-stalk. Empal. leaves
broad and short. Petals as long again as the empalement, deeply
cloven; lobes roundish, entire. Mr. WOODWARD.—Stem soaked
twice or thrice Fruit-stalks solitary, from the forks, above from
the bosom of the leaves. ST.

Meadows and pastures. On the banks of the river between
Bingley and Keighley, Yorksh. near Enfield, and about Brompton,
Chelfea, and in the dry part of the pasturage in Battersea Fields.
[Near Oxford. Mr. WOODWARD.] P. June. July.

2. Blossoms white.

In Chelfea garden, growing as a weed. CURT.

*** All the 10 chives furnished with tips. Fruit-stalks with 2 flowers.
Annuals.

GERA'NIUM robertia'num. Fruit-stalks with 2 flowers. Robert's
Empalements hairy, with 10 angles.—

Curt. i. 10.—Valc.—Blackw. 480.—Lonic. i. 152. 1.—Fl. dan.

694, leaves stiff.—Dod. 62, repr. in Lob. obs. 375. 1, ic. i.

657. 2, Ger. em. 939, and 945. 5, and cop. by Park. 710. 8.

H. ox. v. 15 11, and Pet. 65. 5.—Fuchf. 206, cop. by Traç.

108, and J. B. iii. 480.—Matth. 858.—Ger. 794, and 800.

5, is surely another copy of the same original.

Empalements hairy, the 10 angles formed by the 1st and 3d outer
leaves being each folded into 3 keel-like angles, the 2d and 5th
each into 1, and the 4th into 2. Petals entire. Scent rank. The
whole plant sometimes red. LINN.—Leaflets of the lower leaves dis-
tinct, those of the upper confluent. Fruit-stalks very long. Pedicles
short. Empalements with long awns. Mr. WOODWARD.—Whole
plant beset with pellucid hairs, but becoming smoother as the plant

grows older. *Leaves* divided into 3 parts, *leaflets* united at the base; the lowermost into 5, leaflets united at the base, with winged clefts; segments terminated by a little sharp thorn. *Stems* tinged with red at the joints. *Empalements* purple and green, awned, the angles more evident as the seeds ripen. *Petals*, claws long, border a little ragged, with 3 faint white lines. *Threads* not very evidently united. *Tips* red. *Dust* yellow. *Shaft* hairy. *Summits* a fine crimson. **WITH.**—*Stem* branched, spreading. *Blossoms* red, sometimes white.

Herb Robert. Stock-bill.

Walls, hedges, rubbish, and stony places. B. Apr.—Aug.

A decoction of this plant has been known to give relief in calculous cases. It is considerably astringent, and is given to cattle when they make bloody water, or have the bloody flux.

Horses and Goats eat it. Sheep and Swine refuse it.

2. Blossoms white. RAY. CURT.

Lane from Chiffelhurst to Eltham. RAY.—[Road from Lichfield to Stafford, a little beyond the 4th mile stone, plentifully. Mr. SAVILLE.]

β. HUDS. Whole plant shining. Leaves smaller and more deeply divided. Mr. WOODWARD.

Pet. 65. 5, good. Mr. WOODWARD.

Near Swanning, Dorsetshire. Shore of Selfey Island.

shining GERA'NIUM *lucidum*. Fruit-stalks with 2 flowers. Empalements pyramidal, the angles raised and wrinkled. Leaves with 5 lobes, rounded.—

Fl. dan. 218.—*Thal.* 5, *cop. in J. B.* iii. 481, and *Park.* 707. 9, perhaps more characteristic.—*Walc.*—*Pet.* 64. 12.—*H. ox.* v. 15. 6.

Empalements transversely wrinkled. HALL.—Whole plant sometimes red. *Leaves* nearly kidney-shaped, lobes with generally 3 teeth, smooth, shining, *Flower-scales* very small. *Fruit-stalks* short. *Bloss.* rose-coloured, nicked at the end. RELHAN.—*Stems* shining, yet slightly hairy. *Leaves* the same, kidney-shaped, with mostly 5 lobes; lobes with 3 lobes, the middle one with usually 3 scollops, the side ones entire; in rocky situations only half an inch broad, and not so much divided. *Pedicles* straddling. *Flower-scales* very minute. Mr. WOODWARD.—*Stem* branched. *Empalement* not quite equal.

Walls, roofs, rocky places, dry banks, and shady places, in a sandy soil, [and frequently amongst corn on a chalky soil, and in exposed situations, as near Stamford; Bury, Suffolk; common in the North. Mr. WOODWARD.]

A. June.—Aug.

GERA'NIUM

GERA'NIUM *molle*. Fruit-stalks with 2 flowers, *soft* alternate. Flower-leaves alternate. Petals cloven. Empal. without awns. Stem nearly upright.—

Curt. ii. 12.—11. dan. 679.—Vail. 15. 3.—Pet. 64. 2.—Blackw.

58. 1, *very ill done if the plant.*—(Ger. em. 938, and cop. iii. Park. 706. 2, is *G. rotundifolium*, as is evident from the insertion of the fruit-stalks.)

Pedicles declining. Flower-scales cloven. Empalement scarcely awned, shorter than the blossom. Petals slightly cloven, without a tooth between the lobes. LINN.—Stem trailing when growing alone, upright when amongst grass or other plants. *Blojs.* sometimes almost as large as those of *G. pyrenaicum*. CURT.—*Root-leaves* kidney-shaped, with a circular outline, with 7 lobes, lobes with 3 clefts; the upper more distinctly kidney-shaped, and more finely divided. In the above it agrees with *G. rotundifolium*, but differs in the *stem* and *branches* being clothed with long soft hairs expanding horizontally. MR. WOODWARD.—*Blojs.* of a pleasant purple, sometimes white. RAY. ST.

Doves-foot.—Dry banks, corn fields, meadows, and pastures, in a sandy soil. A. Apr.—Oct.

Sheep and Goats eat it. LINN.—A Horse eat it. ST.

β HUDS. *Geranium pusillum*, which see.

Pet. 64. 3?

GERA'NIUM *columbinum*. Fruit-stalks with 2 *long-stalked* flowers, longer than the leaves. Leaves with 5 divisions and many clefts. Seed-coats smooth. Empal. awned.—

Vail. 15. 4.—Pet. 64. 8.—(H. ox. v. 15. 3, is *G. dissectum*.)

Leaves hairy underneath; segments strap-shaped. Empalement broad, smooth. Petals nicked, with a sharp point between the lobes. LINN.—*Empalement large.* HALL.—*Leaves* divided quite to the leaf-stalk; segments several, sub-divided. *Pedicles* very long, straddling a good deal. *Empalement* very large, bellying. MR. WOODWARD.—*Leaves* a little hairy on both surfaces. *Leaf-scales* spear-shaped, red, 2 on each side of the stem. *Empalement* somewhat hairy, skinny at the edges, terminated by short awns reddish at the ends. *Petals* marked with 3 lines; the little tooth between the lobes not very pointed, reddish blue. WITH.

Corn fields, pastures, and hedges. [Heydon, Norfolk. MR. BRYANT.] A. Junc.—Aug.

Sheep and Goats eat it. Swine refuse it.

jagged GERA'NIUM *dissectum*. Fruit-stalks with 2 flowers. Leaves with 5 divisions; the segments with 3 clefts. Petals nicked, as long as the empalement. Seed-coats woolly.—

Vaill. 15. 2.—Pet. 64. 6.—Fuchf. 207, cop. in J. B. iii. 474. 1.
—Blackw. 58. 2.

Leaves strap-spear-shaped. Fruit-stalks upright. Flower-scales coloured. Empal. awned, when the seeds are ripe expanding. Petals palish flesh-colour. Pointal woolly. Tips blue. LINN.—Petals rather blood-coloured. LEERS. REICH.—Leaves divided to the leaf-stalk into 5, and these again into 3, segments strap shaped, usually entire, but the middle one sometimes sub-divided. Fruit-stalks very short. Flower-scales minute. Mr. WOODWARD.—Leaf-scales and flower-scales red, 2 to each leaf-stalk and fruit-stalk. Fruit-stalks as long as the leaves. Empalement with 3 ribs. Seed-coats beset with glandular hairs. Mr. HOLLEFEAR.

Pastures, corn fields, and ditch banks. A. May—Aug.

β. HUDS.—Plot oxf. 9. 4. at p. 146, cop. in Pet. 64. 7.

Hedges about Marston and Botley Causeway, next Oxford. PLOT.—Woods near Marston, Oxfordshire. RAY.—The same with α. DALE in R. fyn. ST.

round-leaved GERA'NIUM *rotundifolium*. Fruit-stalks with 2 flowers. Petals nearly entire, as long as the empal. Stem prostrate. Leaves kidney-shaped, cut.—

Vaill. 15. 1.—Pet. 64. 4 and 3.—Fuchf. 205, cop. in J. B. iii. 473.—Ger. 793.—Walc.—Math. 855, imitated in Dod. 61. 2, which repr. in Lob. obs. 376. 2, ic. i. 653. 1, Ger. em. 938, and cop. in Park. 706. 2, and Pet. 64. 1, and disguised in H. ox. v. 15. 2.

Stem straddling, cylindrical, downy, clammy. Leaves rounded, soft, downy, somewhat clammy, especially underneath, lobed, with a red point in the hollows. Leaf-stalks reddish brown. Empal. awned, wrinkled, open, with 3 longitudinal wrinkles. Petals wedge-shaped, very blunt, with 3 reddish brown cores at the base, the under surrace not lying upon, but raised from the empalement. Tips yellow. LINN.—Stem and branches covered with a very short down, extremely soft and velvety when drawn through the fingers. Leaves opposite, that from the bosom of which the fruit-stalk arises smaller, and on a shorter leaf-stalk. Fruit-stalks alternate on the stem, from the bosoms of the leaves. The above marks sufficiently distinguish it from the *G. molle*. I do not believe the division of the petals to be at all depended upon. Mr. WOODWARD.—Threads clearly distinct at the base. Petals nicked, nearly

nearly inversely heart-shaped. ST.—*Petals* flesh-coloured, or purple.

Walls, roofs, ditch banks, and sandy pastures, about Bath, Bristol, Battersea, Wandsworth, Mortlake, and Kew. [Suffolk, common. Mr. WOODWARD.] A. July.

Horses and Sheep eat it. Cows and Swine refuse it.

When just gathered it has a pretty strong scent of musk, but which soon goes off. Mr. BRUNTON. ST.

2. Blossom white.

Various places about London. RAY.—Near Bungay, Suffolk, on a dry gravelly soil. Mr. WOODWARD.

GERANIUM *pusillum*. Fruit-stalks with 2 flowers. *small flowercd*
Petals nicked. Stem depressed. Leaves kidney-shaped, hand-shaped; segments strap-shaped, pointed.—

Ray 16. 2. a, and 2. b, at p. 359.

Stem prostrate, just sensibly downy. Leaves more deeply jagged, some of the segments being cut down to the base, which is not the case in the *G. rotundifolium*, which it very much resembles. *Petals* truly nicked, purple. *Chives*, the 5 alternate ones abortive. *Tips* blue. LINN.—About 2 or 3 inches high. Leaves small. *Blossoms* bluish, very small. *Petals* cloven, equal. Found in situations by no means barren, whence it cannot be thought merely a variety of the *G. rotundifolium*. DILL. in R. syn.—Stems several, branched, spreading, smooth, or soft to the touch, from a downiness just visible through a magnifying glass. Root-leaves with 7 lobes; stem-leaves all opposite, lobes 5, strap-shaped, with 3 clefts, pointed. Leaf-scales hairy. Leaf-stalks depressed. Floral-leaves 4, spear-shaped, somewhat hairy. Pedicles declining, at length upright, thicker towards the end. Empalement awnless, hairy. *Petals* inversely heart-shaped, blue, not longer than the empalement. *Chives*, 5 with tips, 5 without. *Tips* bluish. *Summits* whitish, open. Fruit, bill slender, short. Seed-coats brown, shining, smooth, but beset with microscopic bristles pressed to and pointing upwards. LEERS.—I believe that small varieties of both *G. molle* and *rotundifolium* have been called by this name, and that no such plant exists as a distinct species, at least in Great Britain. Dillenius's plant in R. syn. is certainly a variety of *G. rotundifol.* as is evident from the leaves being opposite, and one smaller than the other, and in the downiness of the stem. The shape and deeper division of the leaves I do not think marks strong enough to be depended upon, as both *G. molle* and *rotundifolium* vary in these particulars from soil and situation, and more particularly in the upper leaves. Mr. WOODWARD.—Leers's authority is of little consequence, as under *G.*
molle

MONADELPHIA POLYANDRIA.

molle he acknowledges that he had not sufficiently examined the *G. rotundifolium*. ST.

High ditch banks. Low-Layton. Early in the spring. DILL.

**** Chives, 10 with tips. Fruit-stalks with 1 flower.

bloody GERA'NIUM *sanguineum*. Fruit-stalks with 1 flower. Leaves circular, with 5 divisions; segments with 3 clefts.—

Walc.—Clus. ii. 102. 1, repr. in Lob. ic. i. 660. 1, Ger. em. 945. 2, and imitated in Pet. 64. 9.—Fuchf. 209, cop. in J. B. iii. 478. 2, and Lonic. i. 152. 2, and abridged in Trag. 348.—Park. par. 227. 6.

The whole plant after flowering often turns purplish. LINN.—Stem upright, somewhat branched, beneath the branches swollen, hairy, from a foot to a cubit high. Leaves above rough, hairy underneath and on the edge. Fruit-stalks 3 inches long, hairy, with a knot and 2 floral-leaves about the middle. Empalement hairy, scored, taper-pointed. Blofs. purple, large, expanding, regular; petals egg-shaped, veined, lying one over the other, finely scolloped at the edge. Chives 3 times shorter than the blossom. RELH.—Leaves in wild as well as garden specimens with sometimes 7 divisions; segments strap-shaped. Fruit-stalks much longer than the leaves, hairy. Floral-leaves 2, small, opposite, on the fruit-stalk about one third of its length from the flower. Empal. leaves oval, with membranaceous reddish edges, and terminated by a short red awn. Petals inversely heart-shaped, very large, equal, pale red, with deep red veins. Mr. WOODWARD.—Whole plant set with white expanding hairs. Leaves opposite. Petals hairy at the base. WITH.—Blofs. bluish purple. ST.

Limestone rocks, stony places, dry pastures, heaths, and thickets, in mountainous situations. Arthur's Seat, Edinburgh. LIGHTF. [ST.—Rocks near the sea, Cornwall. Mr. WATT.—Near Buxton, Derbysh. and Roosebeck Low Furness, Lancash. At Heath, near Woodbridge, Suffolk. Mr. WOODWARD.]

P. July. Aug.

Horses, Cows, and Goats eat it. Swine refuse it.

β HUDS. Leaves larger, paler, and more deeply divided. RAY.

Pet. 64. 10.

Banks of the Devil's Ditch, RAY, RELHAN,—and the left side of Dallingham Gap going from Canva's-hall. RAY.

β LINN. γ HUDS.

Dill. elth. 136. 163.—Pet. 64. 11.—(Barr. 67, appears to be a different variety.)

Blossoms white, with reddish veins, *RAY*,—or pale flesh-colour with red veins. *ST.*—*Leaves* smaller and more finely divided than in variety α . *Flowers* much smaller. Dillenius's figure too large. Mr. WOODWARD.

Isle of Walney, Lancashire, on the sea shore, in a sandy soil.

Order VI.

POLYANDRIA; MANY CHIVES.

904. ALTHÆ'A. Wymote. (Ger. and Park.)

EMPAL. *Cup* double. *Outer Cup* of 1 leaf; small and permanent; with 9 unequal clefts. *Segments* very narrow. *Inner Cup* 1 leaf, with 5 shallow clefts. *Segments* broader; sharper; and permanent.

BLOSS. *Petals* 5; united at the base; inversely heart-shaped; bitten; flat.

CHIVES. *Threads* numerous; united at the bottom into a cylinder; loose at the top; fixed to the blossom. *Tips* nearly kidney-shaped.

POINT. *Seed-bud* round and flat. *Shaft* cylindrical; short. *Summits* numerous; about 20; bristle-shaped; as long as the shafts.

S. VESS. *Seed-coats* forming a whorl round the *Receptacle*, which stands in the centre like a pillar; the whorls depressed; not jointed. *Seed-coats* deciduous; opening inwardly.

SEEDS solitary; kidney-shaped, but compressed.

ESS. CHAR. *Empalement* double; the outer with 9 clefts. *Seed-coats* numerous; containing 1 seed.

ALTHÆ'A officinalis. Leaves simple, cottony.— Marsh mallow

Ludw. 1.—Fl. dan. 530.—Blackw. 90.—Lark. 304. 1.—Sucht. 15, cop. in Trag. 371, J. B. ii. 954, and Lonic. i. 157. 1.—Ger. 787.—Matth. 925.—Clus. ii. 24. 1, repr. in Dod. 655. 1, Lob. obs. 373. 1, ic. i. 653. 1, Ger. em. 933. 1, and cop. in H. ox. v. 19. 12.

Stem upright, 2 cubits high, cottony, cylindrical, somewhat branched. *Leaves* spear-egg-shaped, woolly, very soft, velvety; the

the upper smaller, with generally 3 imperfect lobes, ferrated, with mostly 5 ribs underneath; the lower larger, with 7 ribs, sometimes ferrated, sometimes rather scolloped. *Flowers* from the bosom of the leaves, on fruit-stalks, in a kind of panicle. *Flower-scales* with many clefts, bristle-shaped. *Petals* nicked, flesh-coloured. *Tips* violet. RELHAN.—*Stem* and *leaves* clothed with a thick pile, feeling exactly like velvet. All the *leaves* obscurely lobed, doubly ferrated; the lower egg-shaped, somewhat heart-shaped at the base; the upper egg-spear-shaped. *Bloss.* white, or pale flesh-coloured. Mr. WOODWARD.—*Leaves* on leaf-stalks, angular. *Empal.* the outer with sometimes 11 or 12 segments. *Petals* fringed at the base. WITH.

Marsh Mallow.

Salt marshes and banks of rivers. [Salt marshes Norfolk and Suffolk. Mr. WOODW.—Sea shore near Marazion and Penzance, Cornwall. Mr. WATT.] P. Aug.

The whole plant, particularly the root, abounds with a mild mucilage. The root boiled is much used as an emollient cataplasm, and an infusion of it is very generally prescribed in all cases wherein mild mucilaginous substances are useful.

β HUDS. Leaves rounder, and not so pointed. RAY.

Marshes of the Isle of Ely. RAY. RELHAN.

906. MAL'VA. Mallow.

EMPAL. *Cup* double. *Outer Cup* 3 leaves; narrow; heart-shaped; sharp; permanent. *Inner Cup* 1 leaf; with 5 shallow clefts; large; broad; permanent.

BLOSS. *Petals* 5; united at the base; inversely heart-shaped; bitten; flat.

CHIVES. *Threads* numerous; united at the bottom into a cylinder; loose at the top; fixed to the blossom. *Tips* kidney-shaped.

POINT. *Seed-bud* round. *Shaft* cylindrical; short. *Summits* many; bristle-shaped; as long as the shaft.

S. VESS. *Seed-coats* forming a whorl round the *Receptacle*, which stands in the centre like a pillar. The whorl depressed; not jointed. *Seed-coats* deciduous; opening inwardly.

SEEDS solitary; kidney-shaped.

ESS. CHAR. *Empalement* double; the outer-of 3 leaves. *Seed-coats* many; with 1 seed in each.

Obs. All the species are mucilaginous and emollient. The dust is a pretty microscopic object, being toothed like the wheel of a watch. LINN.—It is globular, and covered with prickles, which give it the toothed appearance. ST. WITH.

MAL'VA *parviflora*. Stem open. Leaves angular. *small flowered* Flowers from the bosom of the leaves, sitting, congregated. Empalements smooth, expanding.—

Jacq. hort. i. 39.—(Pluk. 44. 2, cannot be the plant, as the blossom is twice as long as the empalement, and the flowers on fruit-stalks.)

Differs from *M. rotundifolia* as follows: Stem nearly upright, three times as tall. Leaves more pointed. Leaf-stalks ascending near the end. Flowers sitting. Empalements smooth; the outer strap, not spear-shaped, purplish when the fruit is ripe. Blossoms scarcely as long or not even so long as the empalement. Seed-coats wrinkled above, and toothed at the sides. Differs from *M. verticillata* in the branches spreading, and the empalement of the fruit not closed. LINN.—Stem, leaves, and fruit-stalks very slightly downy and roughish; often smooth. Leaves roundish, toothed, and more or less lobed. Flowers few, in a cluster, on short fruit-stalks. Empalement very smooth; the inner, when in fruit, expanding. Petals oblong, nicked, of a palish purple hue. Seed-coats imperfectly toothed at the edges. JACQ.—This plant, as a native of Gr. Britain, is involved in great obscurity, Mr. Hudson gives no particular place of growth, except that from R. syn. Mr. WOODWARD,—for which reason I am inclined to doubt whether the plant found by Sherard might not have been *M. verticillata*, which see; tho' it must be owned that the character of "smaller leaves," in Rand's character of it, as given by Boerhaave, accords better with *M. parviflora*. ST.

Malva annua rotundifolia floribus omnium minimis albis pentapetalis verticillatim genicula ambientibus, et seminibus arcte iisdem verticillatim adhaerentibus, nobis. H. ox. II. p. 521. n. 4, and R. hist. 598. n. 5, quoted by Mr. Hudson with a mark of doubt, is referred by Linnaeus both to *M. parviflora* and *verticillata*. ST. Mr. WOODW.)

On rubbish. HUDS.—Found by Mr. J. Sherard, in company with Mr. Rand, at Hithe, in Kent. DILL. in R. syn.

A. LINN. JACQ. B. HUDS. July.

MAL'VA *rotundifolia*. Stem prostrate. Leaves heart-shaped-circular, with 5 imperfect lobes. Fruit-stalks, when the fruit is formed, declining. LINN.—Lobes of the leaves often distinct. ST.

Curt.

Curt. iii. 27.—*Fl. dan.* 721.—*Lonic.* i. 156. 2.—*Ger.* 785. 2.—*Fuchf.* 508, *cop. in J. B.* ii. 949. 2, and *Trag.* 369, in its first stage of flowering.—*Matth.* 455, improved in *Park.* 299. f. 1.—*Dod.* 653. 2, repr. in *Lob. obs.* 371. 2, ic. i. 651. 1, *Ger. em.* 930. 2.

Bloss. white, with a tinge of purple, but sometimes, as in the neighbourhood of Upsal, quite white and smaller. *LINN.*—*Stem* and *branches* lying close to the ground. *Leaves* serrated. *Leaf-stalks* very long. *Leaf-scales* in pairs, spear-shaped, fringed. *Fruit-stalks* much shorter than the leaves, with 1 flower. *Bloss.* white, with purple veins. *Mr. Woodward.*—*Leaf-stalks* twice or more times longer than the leaves. *ST.*

[*Mauls* in Leicestershire. *Dr. Arnold.*]

Road sides, and among rubbish.

A. June—Oct.

The ancients used to eat the leaves as we do Cabbage.

Sheep eat it. Goats, Horses, and Swine refuse it. Cows are not fond of it. *LINN.*—A Horse eat it. *ST.*

common *MAL'VA sylvest'ris.* Stem upright, herbaceous. Leaves with 7 lobes, pointed. Fruit-stalks and leaf-stalks hairy. *LINN.*—*Lobes of the leaves* 5 and 7. *HALL.* *ST. WITH.*

Curt. ii. 15.—*Blackw.* 22.—*Fuchf.* 509, *cop. in J. B.* 949. 1.—*Ger.* 785. 1.—*H. ox.* v. 17. 8.—*Dod.* 653. 1, repr. in *Lob. obs.* 371. 1, ic. i. 650. 2, *Ger. em.* 930. 1.

Stem and *leaf-stalks* woolly. *Empal. outer,* leaves egg-shaped. *Bloss.* bluish purple, sometimes white. *LINN.*—*Stem* more or less upright, rough, hairy, nearly of the same thickness throughout, rather woody. *Leaves* with 5 lobes, rarely 6 or 7, unequally serrated, hairy on both sides, with a dark purple stain near the insertion of the leaf-stalk. *Leaf-stalks* 3-cornered, rough. *Fruit-stalks* nearly cylindrical, from the bosom of the leaf-stalks or branches. *Empal. outer,* leaves spear-shaped; both *inner* and *outer* hairy without, smooth within, toothed at the edges, and the teeth terminating in long hairs. *Petals* deeply nicked, but not bitten, purple, with 3 or 4 darker streaks. *Chives* purple. *Dust* white. *Shaft* purple. *Summits* purple, 11 or 12. *WITH.*

Common Mallow. [*Mauls* in Leicestershire. *Dr. Arnold.*]

Hedges, foot paths, and amongst rubbish. [Tho' so common in most parts of England, it is so scarce about Kendal in Westmoreland, that to find a plant of it is regarded as a botanical discovery. *ST.*]

The young leaves, when boiled, are good to eat.

Cows eat it. *LINN.*—A Horse eat it. *ST.*

2. Blossoms purplish blue.

Near Worcester. Sr.

3. Root-leaves variegated with yellowish white blotches towards the edge.

In the fields near Worcester on rubbish. Being removed into the garden it remained unchanged, flowering the succeeding summer. Sr.

MAL'VA verticillata. Stem upright. Leaves whorled angular. Flowers from the bosom of the leaves, congregated, sitting. Empalements rough.—

Jacq. hort. i. 40.

Empalement of the fruit closed. *LINN. Sr.*—Root fibrous. Stem cylindrical, roughish, $1\frac{1}{2}$ foot or more high. Leaves roundish, heart-shaped at the base, tooth-ferrated, with 7 lobes, smooth above, somewhat downy underneath. Leaf-scales egg-shaped, pointed. Fruit-stalks with 1 flower, short. *Empal.* leaves of the outer spear-shaped; the inner closing upon the fruit. Petals oblong-inversely heart-shaped, pale, with the outer border purplish. *JACQ. Sr.*—Root branched, stiff, whitish, branches zigzag. Stems very little or not at all branched, sometimes a little ascending at the base, stiff, slightly angular, smooth below, but above with very fine scattered hairs. Leaves alternate, kidney-shaped, with 3 ribs, scolloped, with 5 rounded lobes, smoothish, the veins above near the insertion of the leaf-stalks downy, and all of them underneath beset with short hairs; the lower leaves indistinctly lobed; the upper pointed. Leaf-stalks shorter than the leaves, channelled and downy above, roughish underneath. Leaf-scales opposite, in pairs, upright, scored, the edges hairy and somewhat membranaceous, and extended a little way down the stem. Flowers nearly sitting, upwards of seven in a cluster. Fruit-stalks cylindrical, unequal, shorter than the empalements, bare, growing out in length while the plant is in flower; when the fruit is formed, upright. *Empal.* outer somewhat shorter than the inner; leaves spear-strap-shaped, scored, somewhat expanding, hairy at the edge; the inner hairy, after the flowering of the blossom closing upon the fruit, increasing in size, and at length slightly expanding. Bloss. just longer than the empalement, whitish, with a purplish border; petals very slightly nicked, beset with very short whitish hair. Threads white, 9 to 10. Dust globular, very large, adhering to the summit. Summits 11, white, rolled back, woolly above. Seed-coats wrinkled at the edges, corresponding in number with the summits. The leaf-stalks shorter than the leaves, the upright fruit-stalks, and the comparative length of the blossom and empalement may be added to the other marks, which distinguish it from *M. rotundifolia*. Sr.

Malva

Malva sinensis annua, erecta, flore minimo. Küttsaife. RAND act. phil. xxxii. — *Malva annua rotundifolia floribus omnium minimis albis pentapetalis verticillatim genicula ambientibus, et seminibus arcte iisdem verticillatim adhaerentibus, nobis.* H. ox. II. 521, [and R. hist. 598.] — *Malva sinensis, erecta, flosculis albis minimis.* Boerh. ind. alt. 268. n. 5.

On a dung-hill on the side of the turnpike road from Birmingham to Hales-Owen at the 3d mile stone. I am inclined to believe that the seeds had been carried thither with rubbish, from some of the gardens near the town. ST. A. July.

musk MAL'VA *moscha'ta.* Stem upright. Root-leaves kidney-shaped, cut. Stem-leaves with 5 divisions; segments between winged and many cloven. LINN.—Leaves of the outer empal. strap-spear-shaped. From CURT. ST.

Curt. iv. 42.—Walc.—J. B. ii. 1067. 1.—H. ox. v. 18. 4.

Differs from *M. Alcea* as follows: Stem not so tall, with solitary upright hairs rising from a prominent little point. Seed-coats rough with hairs. Flowers of an ambrosial scent. LINN.—Differs from *M. Alcea* as follows: of a musk scent while in flower. Stems $1\frac{1}{2}$ foot high. Stem-leaves with 5 divisions extending to the leaf-stalk; segments with winged clefts, those of the uppermost leaves very narrow. Flowers somewhat smaller. Seed-coats rough with hair. LEERS.—Empal. no protuberant ring at the base. CURT.—Stem cylindrical, much branched, slightly hairy. Root-leaves roundish-kidney-shaped, deeply scalloped at the edge; lower stem-leaves with 3 clefts extending half way down, the lateral segments with 2 or 3 lobes half as deep; those above with 3 divisions extending down to the leaf-stalk, segments deeply divided, the sub-divisions deeply jagged; the upper sometimes lengthened out into something of a triangular form, with 5 divisions, segments with winged clefts, the sub-divisions more and more divided upwards, those of the uppermost strap-shaped. Leaf-scales spear-shaped, 2 at the base of the leaf-stalks. Flowers crowded on the top of the stem and branches, from the bottom of the upper-leaves, solitary. Empal. outer, leaves very narrow, inner with broad oval segments, terminated by an angular point. The musk-like scent not always perceptible, in which state it has probably been sometimes taken for *M. Alcea*. MR. WOODWARD.—Plant, but not the flowers, with a strong scent of musk, especially after being gathered a few hours. Stem cylindrical, rather woody, upright, branched, rough with bristly hairs rising from dark-coloured tubercles. Branches purplish, swollen at their base. Leaves above dark green, and a little hairy; more hairy beneath. Root-leaves on long leaf-stalks, toothed on the convex

convex edge; *stem-leaves*, the lower rather semi-circular, and somewhat deeper cut at the convex edge; the *middle* ones cloven into 5 segments, which are cut and toothed; the *upper* with 3 deep divisions, more hairy than those below, the 2 lateral segments divided into 2, the middle one into 3, the lesser segments jagged and toothed. *Leaf-stalks* shortening upwards. *Leaf-scales* and *flower-scales* strap-shaped, resembling the leaves of the outer empalement, but larger. *Empal. outer*, leaves spear-shaped, toothed at the edge with greenish glands, out of each of which arises a long white hair; *inner* hairy, marked within, at the base of the petals, with 5 large, circular, pale green, and rather fleshy spots. *Petals* fleshy at the base, ribbed, claws fringed, twice as long as the empal. *Threads* and *dust* white. *Tips* purplish red. *Shafts* 15. *Seed-buds* 15, set with soft hairs. *WITH.*—*Stem*, *fruit-stalks*, and *empalements* hairy. All the *leaves* smooth and dotted above, the veins and edges hairy underneath; *stem-leaves* of a flowering stem sometimes all jagged, while those of a barren stem circular-kidney-shaped. *Flowers* musk-scented, pale rose-coloured, the terminating ones crowded, the lower ones solitary, from the bosom of the leaves. *Fruit-stalks* sometimes longer than the flowers. *ST.*

M. moschata, or round cut-leaved Vervain Mallow. *MILL.* dict. n. 10, though Miller does not seem to have known that a plant answering to the specific character which he gives from Linnæus, was a native of Great-Britain. Ray seems to have mistaken this for the *M. Alcea*. *CURT. ST.*—*Alcea folio rotundo laciniato* C. B. ib. is regarded by Mill. as a distinct species, but that it is our plant appears from the descriptions of Clusius and Col. *ST.*

Meadows, pastures, and ditch banks. [Hertfordshire, Huntingdonshire, Derbyshire, and the North, frequent. In Norfolk and Suffolk sparingly. *MR. WOODWARD.*] B. July. Aug. Cows and Horses eat it. Sheep refuse it.

2. All the leaves divided down to the base, segments with many clefts. *WITH. ST.*

Not musk-scented. *Stem* angular towards the top, about 2 feet high, less branched. *Branches* not swollen at the base. *Leaves*, segments 3 or 5, and sub-dividing into others, which are again cut into clefts. *Leaf-stalks*, all short. *Leaf-scales* and *flower-scales* sometimes toothed on one edge. *Empal. inner* without any circular spots within it. *Petals* more than twice as long as the empalement. *Shafts* and *seed-buds* 17. *WITH.*—*Stem* 2½ feet high. *Branches* ex-
tending. *Leaves* not dotted, with a soft whitish down on each side, with mostly 7 divisions, the upper with 5, segments with fringed clefts. *Fruit-stalks* shorter than the flowers. *Flowers* musk-scented. *Flower-scales* often with a tooth, or with 3 clefts. *Threads*,
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the cylinder downy. Not having cultivated these plants, I cannot say to what cause we are to attribute the above differences, many of which, I doubt not, are variable. The 1st variety, I am inclined to think, were plants which had been cut or eaten down early in the spring; the latter such as had grown unmolested in open and exposed situations. ST.

M. Alcea, or narrow-leaved curled Vervain Mallow. MILL. dict. n. 8.—(*Alcea vulgaris minor*. C. B. pin. 316, variety β Linnæus, has the upper-leaves hand-shaped and cut, not fingered, with winged clefts. See Fl. succ.—Lonic. ii. 31, seems rather to resemble Mill. ic. p. 12. ST.)

Pastures in many parts of England. MILL.—[Dudley Castle. WITH.—Sunny banks, Worcester(shire). ST.] July. Aug.*

Papilio Malvæ, and *Cimex Apteris*, are supported by the different species. 907. LAVA-

* *M. Alcea* has been inserted by Mr. Hudson, and said to grow in hedges, and on the borders of corn fields, in Warwickshire, Leicestershire, and Nottinghamshire. Miller, too, in his icones, says, that the *M. Alcea* grows in Warwickshire and Staffordshire, and adds, that he does not remember to have seen it growing in any other county in England. What he here calls *M. Alcea*, however, should seem, from the English name which he gives it in his dictionary, of narrow-leaved curled Vervain Mallow, to be no other than *M. moschata*, variety 2. Accordingly, in this latter work, he distinguishes the true *M. Alcea* by the title of *M. major*, or common greater Vervain Mallow. This he indeed tells us is found growing naturally in some of the midland counties in England, but not near London. But, when I find that he does not admit the *M. moschata* to be a native of Great-Britain, I am inclined to believe, that what he has said of the true *M. Alcea* was given from the information of others, who mistook the *M. moschata* for it, and not from his own observation. ST.—That this does not exist as an English plant, the *M. moschata* having been probably mistaken for it, is now past all doubt, and that no other than *M. moschata* is to be found in the counties of Warwick, Leicester, and Nottingham, is confirmed by the repeated observations of botanists who have carefully searched for it in those counties. Mr. WOODWARD.

907. LAVATE'RA. Velvet-leaf.

EMPAL. *Cup* double.

Outer Cup 1 leaf; with 3 shallow clefts; blunt; short; permanent.

Inner Cup 1 leaf; with 5 shallow clefts; segments sharper; upright; permanent.

BLOSS. *Petals* 5; united at the base; inversely heart-shaped; flat; expanding.

CHIVES. *Threads* numerous; united at the bottom into a cylinder; loose at the top; fixed to the blossom. *Tips* kidney-shaped.

POINT. *Seed-bud* round and flat. *Shaft* cylindrical; short. *Summits* many; 7 to 14; bristle-shaped; as long as the shaft.

S. VESS. *Seed-coats* forming a whorl round the *Receptacle*, which stands in the centre like a pillar. The whorl depressed; not jointed. *Seed-coats* deciduous; opening inwardly.

SEEDS solitary; kidney-shaped.

ESS. CHAR. *Empal.* double; the outer with 3 clefts. *Seed-coats* several; each with 1 seed.

LAVATE'RA *arbo'rea*. Stem woody. Leaves with tree 7 angles, cottony, plaited. Fruit-stalks crowded, from the bosom of the leaves, with 1 flower.—

(Matth. 457, is *Alcea ficifolia*.)

Bloss. reddish purple, with black blotches at the base of the petals, and scored with purplish black streaks. ST.

Tree Mallow.—Sea shores. Hurst Castle, over against the Isle of Wight. Portland Island, rocks of Caldey Island, and Basse Islands, near Edinburgh. RAY.—Inch Garvey and Mykric-Inch, in the Firth of Forth. SIBBALD.—Cornwall and Devonsh. HUDS.

B. July. Aug.

Class XVII.

D I A D E L P H I A.

T H R E A D S in 2 S E T S.

THIS Class comprehends the *Butterfly-shaped* flowers, and the *Leguminous* plants of some authors. Linnæus takes the CLASSIC character from the *disposition*, and the character of the ORDERS from the *number* of the Chives. From the title of this Class, the young Botanist will be led to imagine, that the threads are always formed into *two* sets, but this is, by no means, the case; in many instances they are united into *one* set. The *Butterfly-shape* of the blossom will, therefore, be a surer guide. If the student will get the flower of a Garden Pea, and compare it with the following NATURAL CHARACTER, there will no longer remain any difficulty in pronouncing, at first sight, whether a plant belongs to this Class or not.

NATURAL

N A T U R A L C H A R A C T E R .

EMPAL. *Cup* 1 leaf; bell-shaped; shrivelling; bellying at the base; the lower part connected with the fruit-stalk; upper part blunt; containing honey. *Rim* with 5 teeth; sharp; upright; oblique; unequal. *Lower Tooth* long; 2 *upper* teeth shorter, and standing further afunder. The bottom of the cup inclosing the receptacle, moistened with a liquor like honey.

BLOSS. *butterfly-shaped*; unequal; each petal having a distinct name. Thus the *Standard* is the largest petal, lying upon, and covering the others. It is flat; horizontal; fixed by a claw to the upper edge of the receptacle; that part of it which stands out of the cup nearly circular and entire; a rising line, marking it lengthways, particularly towards the end, as if it had been pressed down at the sides. That part of the petal next the base is somewhat like half a cylinder, and incloses the parts that lie under it. The border is depressed on each side, but the sides next to the edge are turned upwards, where the half cylinder terminates. At the unfolding of the border there are 2 concave impressions, prominent on the under side, and compressing the wings which lie beneath them.

The *Wings* are 2 equal petals; 1 placed on each side the flower under the standard. The borders incumbent; parallel; circular, or oblong; broadest outwards; the upper edge pretty straight; the lower extended and rounded. The base of each wing is cloven; the *lower segment* extending into a claw, fixed to the side of the receptacle, and about as long as the cup; the *upper segment* shorter and bent inwards.

The *Keel* is the lowermost petal; generally divided; placed under the standard, and between the wings. It is boat-shaped, concave, compressed at the sides; placed in the position of a boat upon the water. It is diminished at the base, the lower part extending into a claw as long as the cup, and fixed to the receptacle. The upper and lateral segments shorter, and interwoven with those parts of the

wings which resemble them in shape. The sides of the keel shaped like the wings, and have a similar situation, only lower and more inwards. The line that forms the keel, in this petal, is straight as far as the middle, and then gradually rises in an arch; but the marginal line runs straight to the extremity, until it meets with, and is lost in that of the keel.

CHIVES. *Threads* united into 2 bodies, differing in shape. The *lower thread* inclosing the pointal; the *upper thread* lying upon it.

Lower Thread inclosing the seed-bud; membranaceous below the middle, and cylindrical; opening upwards and lengthways; terminating in 9 awl-shaped threads, bent like the keel, and equal to it in length; alternately 2 longer and 2 shorter.

Upper Thread awl or bristle-shaped. Similar in situation to, and lying upon the opening of the cylindrical part of the lower thread; simple; and a little shorter than that: separated from the others at the base, so as to give a vent on each side for the honey.

Tips 10; 1 upon the upper thread; 9 upon the lower; small; equal in size; terminating.

POINT. single; superior. *Seed-bud* oblong; nearly cylindrical; slightly compressed; straight; as long as the cylinder of the lower thread which incloses it.

Shaft awl-shaped, or thread-shaped; ascending; agreeing in length and situation with the divisions of the lower thread, and placed amongst them; shrivelling.

Summit downy as far as it is turned upwards, placed directly under the tips.

S. VESS. *Shell* oblong; compressed; blunt; with 2 valves, and a seam running lengthways both above and below; both seams straight; but the upper seam falling near the base, and the lower seam rising towards the end. It opens at the upper seam.

SEEDS several; roundish; smooth; fleshy; pendant; marked with a prominence caused by the young plant near the insertion of the eye. When the young plant is excluded, the side lobes retain the figure of half the seed.

Receptacles

Receptacles *proper to the seeds*; small; very short; slender at the base; blunt at the part by which they are fixed. Inserted lengthways in the upper seam *only* of the pod, but alternately; so that the valves being separated, the seeds adhere alternately to each valve.

Obs. This Class is perfectly natural, and the structure of the flowers extremely singular: their situation is generally obliquely pendant.

The figure of the SHELL is not of so much consequence in ascertaining the Genera as some have imagined; but the CUP, which has been hitherto thought unworthy of notice, is of the greatest use. The LEAVES never should be considered in forming the characters of Genera.

The SEEDS of this Class furnish food for men, and other animals: they are farinaceous and flatulent. The LEAVES are food for cattle. None of them are poisonous.

Dr. Pulteney, in a note added to his translation of the Pan Succicus, says, "A general view of this Class shews at once how
 " very acceptable its plants are to almost all cattle, Cows and
 " Sheep refused none, and Horses not more than three, out of the
 " whole number with which they were tried. They afford the
 " richest food for cattle, and are cultivated in divers parts of
 " Europe, with all possible attention. With us, the TRIFOLIUM
 " *pratense*, (or *Clover*,) is mostly sown. Lately some trials have
 " been made with the HEDYSARUM *onobrychis*, (*Saintfoin*) and
 " some have thought that it answers better than *Clover*. I say
 " nothing of the exotic *Lucern*. Among these plants the ANTHYL-
 " LIS *vulneraria* is particularly acceptable to Sheep; inasmuch,
 " that the separate cultivation of it has been recommended, but
 " it will not succeed well except on chalky grounds." (See Dr. Pulteney's judicious work, entitled, "A General View of the
 " Life and Writings of Linnæus,"

*Order II.**HEXANDRIA; VI. CHIVES.*

920. FUMA'RIA. Cup 2 leaves. *Bloss.* gaping, bel-
lied at the base; containing
honey; 3 tips on each thread.

*Order III.**OCTANDRIA; VIII. CHIVES.*

921. POLYG'ALA. Cup with 2 segments like wings.
Bloss. with a cylindrical stand-
ard. *Chives* connected. *Caps.*
inversely heart-shaped; 2
cells.

*Order IV.**DECANDRIA; X. CHIVES.*

* Threads all united.

929. SPAR'TIUM. Threads adhering close to the feed-
bud. Summit woolly; growing
to the upper side of the shaft.
930. GENIS'TA. Pointal pressing down the keel.
Summit rolled inwards.
936. ANTHYL'LIS. Cup swollen and turgid; inclos-
ing the pod.
932. U'LEX. Cup 2 leaves. Shell hardly longer
than the cup.
935. ONO'NIS. Shell diamond-shaped, fitting.
Standard scored.

** Summit

** Summit downy, (without the marks of the former division.) LINN.—
9 of the threads united. WITH.

945. OR'OBUS. Shaft slender, nearly cylindrical;
woolly on the upper or inner
side.
944. PI'SUM. Shaft keel-shaped above, and
woolly.
946. LATH'YRUS. Shaft flat above, and woolly.
947. VIC'IA. Shaft bearded under the Summit.

*** Shells 2 cells, (without the marks of the former divisions.)
965. ASTRAG'ALUS. Shell 2 cells; rounded.

**** Shells with 1 or 2 seeds, (without the marks of the former
divisions.)
968. TRIFO'LIUM. Shell but little longer than the
cup; with 1 or 2 seeds. Flow-
ers in heads.
† Medicago lupulina. ST.

***** Shell somewhat jointed. LINN.—or spiral. ST.
961. HEDYS'ARUM. Shell with roundish compressed
joints. Keel very blunt.
957. ORNI'THOPUS. Shell jointed; bent like a bow.
958. HIPPOCRE'PIS. Shell compressed; membranace-
ous; 1 of the seams hollowed
out with deep notches, deeper
than the middle of the shell.
971. MEDICA'GO. Shell spiral; membranaceous;
compressed. Pointal pressing
down the keel.

***** Shell

***** Shell 1 cell and many seeds, (without the marks of the former divisions.)

948. ER'VUM. Cup with 5 divisions, somewhat equal; nearly as long as the blossom.

969. LO'TUS. Shell cylindrical; filled with cylindrical feeds.*

* Linnæus also gives a kind of natural arrangement of the different genera.

WINGED WITHOUT AN ODD LEAFIT. *Orobus*, *Pisum*, *Lathyrus*, *Vicia*, *Ervum*.

WINGED WITH AN ODD LEAFIT. *Astragalus*, *Hedysarum*.

WITH THREE LEAFITS. *Trifolium*, *Lotus*, *Medicago*, *Genista*, *Ononis*.

FLOWERS IN RUNDLES. *Lotus*, *Ornithopus*, *Hippocrepis*.

Order II.

HEXANDRIA; VI. CHIVES.

920. FUMA'RIA. Fumitory.

EMPAL. Cup 2 leaves; opposite; equal; lateral; upright; sharp; small; deciduous.

BLOSS. oblong; tubular; gaping; palate projecting and filling up the mouth.

Upper Lip flat; blunt; notched at the end; reflected. (*The Standard.*)

The Honey-cup is the base of the upper lip projecting backwards; blunt.

Lower Lip altogether similar to the upper lip; towards the base keeled. (*The Keel.*)

Honey-cup at the base keeled; but projecting less in this than in most of the other genera.

Mouth 4-cornered; blunt; cloven perpendicularly. (*Wings.*)

CHIVES. Threads 2; equal; broad; taper; one inclosed within each lip. Tips, 3 at the end of each thread.

POINT. Seed-bud oblong; compressed; tapering. Shaft short. Summit round; compressed; upright.

S. VESS. Pod with 1 cell.

SEEDS roundish.

ESS. CHAR. Empalement of 2 leaves. Bloss. gaping. Threads 2; membranaceous; each with 3 tips.

OBS. The chives are almost the only invariable part in this genus.

* Blossoms with a single spur.

FUMA'RIA officina'lis. Seed-vessels in bunches, common each with a single seed. Stem spreading.—

Ludw. 83.—Curt. ii. 19.—Matth. 1158.—Riv. tetr. 1.—Fuchf. 338, cop. in J. B. iii. a. 201.—Blackw. 237.—Walc.—Ger. 927. 1.—Lonic. i. 166. 2.—Dod. 59, repr. in Lob. obs. 437. 3, ic. i. 757. 1, Ger. em. 1038. 1, and cop. in Park. 287. 1.—Trag. 110.—Mill. 136. 2, leaves too broad.—H. ox. iii. 12. 9.

Pouch roundish, falling off. LINN.—*Stems* smooth. *Leaves* smooth, somewhat fleshy, sea-green, treble compound, the last divisions with 5 or 3 clefts, the extreme segments spear-shaped. *Flowers* alternate, in long spikes. *Fruit-stalks* very short. *Floral-leaves* spear-shaped, membranaceous, 1 at the base of each fruit-stalk. *Seed-vessel* roundish, smooth. MR. WOODW.—*Leaves* doubly winged; *leaflets* with 3 lobes, and these again cloven into 2 or 3 parts. *Bloss.* pink and deep purple; in long terminating spikes, sometimes pale purple or white.

Fumitory.

Corn fields, ditch banks, [dung-hills. ST.] A. May—Aug.

Cows and Sheep eat it. Goats are not fond of it. Horses and Swine refuse it. LINN.—A Horse eat it. ST.

The leaves are succulent, saline, and bitter. The expressed juice in doses of 2 or 3 ounces, is useful in hypochondriacal, scorbutic, and cachectic habits. It corrects acidity, and strengthens the tone of the stomach. Hoffman prefers it to all other medicines as a sweetener of the blood. There is no doubt of its utility in obstructions of the viscera, and the diseases arising therefrom. WITH.—An infusion of the leaves is used as a cosmetic to remove freckles and clear the skin. MR. WOODWARD.

β. GER. PROV. HUDS.

Fumaria capreolata, which see.

In situations where it can receive support this variety is produced, which differs in no respect except that as it climbs the leaf-stalks are bowed. GER. PROV.—I have not been able to perceive any difference between this and α, except in the colour of the flower, which in this is white tipped with purple. I have never found the leaves with tendrils, but the stems are climbing, and the leaf-stalks are twisted or twining. HUDS.

ramping FUMARIA *capreolata*. Seed-vessels in bunches, each with a single seed. Leaves climbing, somewhat tendril-like.—

(Fl. dan. 340, referred to by Linnæus, is most certainly *F. claviculata*.)

Pedicles bowed back. The extreme *leaflets* running into tendrils.

LINN.—Gerard considers it as a variety of *F. officinalis*, but it is singular that it should not occur in the corn fields or orchards of Sweden, where the *F. officinalis* is common. LINN.—Much taller than *F. officinalis*. *Flowers* larger. *Leaf-stalks* of the leaflets curved, and acting the part of tendrils, clasping about the neighbouring plants. LIGHTF. ST.—*Stems* longer and weaker than those of *F. officinalis*. *Leaves* more distant, not so finely divided, the extreme divisions broader and blunter. *Flowers* fewer on the spike. *Fruit-stalks*

Stalks longer. Mr. Woodw.—*Stem* sometimes trailing, and interweaving its branches among the grass, very much branched, sometimes 3 feet long. *Blossoms* pale red. Sr.

Gardens, cultivated ground, and under walls with the *F. officinalis*. Ray.—Rocks by the sea side. Lightf.—Ditch banks. Sr.
A. Aug. Sept. Sr.

FUMARIA *claviculata*. Pods strap-shaped. Leaves *climbing* with tendrils.—

Fl. dan. 340.—*Dod.* 60, repr. in *Lob. obs.* 438. 2, ic. i. 758. 1, *Ger. em.* 1088. 2, and cop. in *J. B. iii. a.* 204. 1, *Park.* 288. 6, and *H. ox.* iii. 12. 3.—*Ger.* 929. 5 and 6.

Tendrils from the ends of the leaves. Linn.—*Leaf-stalks* often crooked. *Tendrils* generally forked, and sometimes with 2 minute leaves near the end. *Spikes* lateral. *Fruit-stalks* straight, naked. *Pods* with 2 seeds. Mr. Wood.—*Leaves* green; *leaflets* inversely egg-shaped, egg-spear-shaped, or spear-shaped. *Tendrils* branched. *Flowers* few, yellow. *Spikes* short. Mr. Woodw.—*Stems* 3-cornered, slender, purplish at the base. *Leaflets* egg-spear-shaped, ending in a sharp flexible point. *Spikes* towards the top of the stem or branches, of about 5 flowers, seldom more than 2 of which come to perfection. *Empal. leaves* inversely heart-shaped, white, very small. *Bloss.* *standard* oblong, concave, reflected at the end, not notched; *honey-cup* blunt; *keel* a little concave at the top, and reflected at the edges. *Threads*, 1 fixed to the standard, the other to the base of the 2 wings and uniting them. *Seed-bud* heart-shaped; *shaft* crooked; *summit* flat, and ragged. *Seed-vessel* oblong, tapering, with 1 to 3 seeds. With.

Woods and moist hedges, boggy and rocky places, in a sandy soil, and on the banks of lakes and rivers. [Among the rocks of Stonehall, near Rawdon, 7 miles from Leeds. Mr. Wood.—Rough stony places above Great Malvern Tower. Nash. Mr. Gallard.—Thorpe, near Norwich. Mr. Woodw.—In some of the least frequented roads about Birmingham. With.]

A. Junc. July.

Order

Order III.

OCTANDRIA; VIII. CHIVES.

921. POLYG'ALA. Milkwort.

EMPAL. *Cup* 3 leaves; small; egg-shaped; sharp; permanent; 2 placed beneath, and 1 above the blofs.

BLOSS. butterfly-shaped. Number of petals uncertain.

Wings permanent; somewhat egg-shaped; flat; large; placed on the outside the other parts of the blossom, and formed by the teeth of the cup.

Standard generally cylindrical; tubular; short. *Rim* reflected; small; cloven.

Keel concave; compressed; distended towards the end.

Appendages; generally 2; pencil-shaped; with 3 divisions; fixed towards the end of the keel.

CHIVES. *Threads* 8; united; inclosed in the keel. *Tips* 8; simple.

POINT. *Seed-bud* oblong. *Shaft* simple; upright. *Summit* terminating; thick; cloven.

S. VESS. *Capsule* turban-heart-shaped; compressed; sharp at the edge. *Cells* 2. *Valves* 2. *Partition* placed crossways to the valves; opening at the edge on each side.

SEEDS solitary; egg-shaped.

ESS. CHAR. *Empal. leaves* 5; 2 of them wing-like; coloured. *Shale* inversely heart-shaped; with 2 cells.

Obs. The appendage to the keel is different in different species. The wings of the blossom may be considered as 2 lateral coloured leaves belonging to the empalement, and then it will be a *cup* composed of 5 leaves. LINN. WITH. ST.

common POLYG'ALA *vulgaris*. Flowers crested, in bunches. Stems herbaceous, simple, trailing. Leaves strap-spear-shaped.—

Walc.—*Fl. dan.* 516.—*J. B.* iii. 386. 3 and 4.—*Dod.* 253, repr. in *Lob. obs.* 228. 1; *ic.* i. 416. 2, *Ger. em.* 564, and cop. in *Park.* 1332. 2.—*Trag.* 571, cop. in *Lonic.* i. 183. 1.—*J. B.* iii. 362.—*Lob. ic.* i. 417. 1, repr. in *Ger. em.* 563. 3.—*Ger.* 449. 4.—(*Vaill.* 32. 1.—*Ger. cm.* 563. 2 and 4, and *Ger.* 449. 2 and 3, are *P. major* of *Jacquin.*) Stem

Stem with us never nearly upright. Flowers with a pencil-shaped appendage. LINN.—Leaves larger upwards. MR. WOODWARD.—Stem 4-cornered, undivided. Leaves alternate, or in pairs, a little rolled back at the edges, the upper spear-shaped, the lower egg-shaped. Empal. leaves spear-shaped, concave, coloured. Blofs. wings spear-shaped, more fully coloured than the empalement; Standard composed of 2 petals, joined by a hairiness at the edges; keel cylindrical below, but towards the top expanding into 2 sets of club-shaped glandular appendages. Threads in 2 sets, like 2 expanded hands, with 4 fingers to each. Tips yellow, or orange. Shaft thicker upwards. Summit with 2 lips, the one a fleshy knob, the other spear-shaped, concave. Seed-vessel bordered. WITH.—Bunches terminating. Blofs. blue.

Milkwort.—Pastures and heaths.

P. June. July.

Linnaeus found it to possess the properties of the Senega Rattle-snake root, (*Polygala Senega*) but in an inferior degree. Duhamel used it in pleuritic cases with the desired success. *Mem. de Paris*, 1740.—The powdered root may be given in doses of half a dram.

Cows, Goats, and Sheep eat it. Swine refuse it.

β HUDS. *Park*. 1332. 1, cop. in *J. B.* iii. 387, are referred to by Doody in *R. syn.* but no place of growth is mentioned.

More upright, and always purplish. DOODY.—I have luxuriant specimens both, blue and purple, which accord with Doody's observation, but the flowers fall far short of those of the *P. major* of Jacquin, to which the figures referred to by Doody belong. SR.

γ Flowers violet-coloured. HUDS. ST.

δ Flowers flesh-coloured. HUDS. ST.

ε Flowers white. HUDS. ST. WITH.

ζ HUDS. In bogs beyond the wood going from John Coal's to Croydon Bogs. SHERARD in *R. syn.*

Order

Order IV.

DECANDRIA; X. CHIVES.

929. SPAR'TIUM. Broom.

EMPAL. *Cup* 1 leaf; heart-shaped, but tubular; small; coloured; the upper margin very short; the lower towards the end set with 3 or 5 little teeth.

BLOSS. butterfly-shaped. *Petals* 5.

Standard inversely heart-shaped; entirely reflected; large.

Wings egg-shaped; oblong; shorter than the standard; connected to the threads.

Keel, petals 2; spear-shaped; oblong; longer than the wings; connected at the keel-shaped margin by soft hairs; fixed to the threads.

CHIVES. *Threads* 10; connected; unequal; the uppermost the shortest, and from that growing gradually longer. The lower cloven into 9 parts. *Tips* rather oblong.

POINT. *Seed-bud* oblong; hairy. *Shaft* awl-shaped; hairy; rising upwards. *Summit* fixed to the upper side of the shaft, near the end.

S. VESS. *Shell* cylindrical; long; blunt; with 1 cell and 2 valves.

SEEDS many; globular; but somewhat kidney-shaped.

ESS. CHAR. *Summit* longitudinal; woolly above. *Threads* adhering to the seed-bud. *Empalement* lengthened out downwards.

common SPAR'TIUM *scopa'rium*. Leaves in threes, and solitary. Branches without prickles, angular.—

Riv. tetr. 63. 1, *Genista*.—*Fl. dan.* 313.—*Blackw.* 244.—*Sheldr.*

7.—*Dod.* 761. 1, repr. in *Lob. obs.* 531. 1, *ic.* ii. 89. 1, *Ger.*

em. 1311. 1, and cop. in *Park.* 229. 1.—*Ger.* 1130. 1.—*Fuchf.*

219, cop. in *J. B. i. b.* 388. 3.—*Trag.* 961.—*Lonic.* i. 39. 2.

Empalement with 2 lips; the lip beneath the keel with 3, the other with 2 very short teeth. *RELHAN*.—*Pods* fringed at the edge with long soft hairs. *Mr. Woodward*.—*Leaves* and *leaf-stalks* slightly hairy

hairy. *Empal.* the upper segment with 2 teeth larger than those of the lower. *Blofs.* *standard* nearly circular, slightly notched at the end; *keel*, the petals rather hooked, united at the lower edge by an intertexture of very fine, soft, woolly hairs. *Threads*, 4 long, and 6 short. *Shaft* bowed almost into a circle, and after flowering into a spiral; the very end, which one should be inclined to regard as the summit, not hairy. *Blofs.* yellow. WITH.

Broom.—Dry pastures.

S. May. June.

The young flowers are sometimes preserved as pickles. The plant, when burnt, affords a tolerably pure alkaline salt. Dr. Mead relates the case of a dropfical patient that was cured by taking half a pint of a decoction of green Broom tops, with a spoonful of whole Mustard seed, every morning and evening. The patient had been tapped three times, and tried the usual remedies before. (*Monita et præcept. medica. p. 138.*) An infusion of the seeds, drank freely, has been known to produce similar happy effects; but, whoever expects these effects to follow in every dropfical case, will be greatly deceived. I knew them succeed in one case that was truly deplorable; but out of a great number of cases, in which the medicine had a fair trial, this proved a single instance. A strong lixivium of the ashes was used in the Swedish army, in the year 1759, to cure dropfies consequential to a catarrhal epidemic fever. The urine became plentiful, and the dropfies soon disappeared. *Med. comm. vol. i. p. 373.*—Some use the seeds toasted, so as to make a kind of coffee.—The plant, when growing large, merits a place among our flowering shrubs, on account of the profusion of its golden coloured blossoms.

Cows, Horses, and Sheep refuse it. LINN.

A Horse eat it. WITH.—*Phalæna pisi* feeds upon it.

930. GENIS'TA. Greenweed.

EMPAL. *Cup* 1 leaf; small; tubular; mostly with 2 lips.

Upper Lip with 2 teeth, more deeply divided than the *Lower Lip*, which has 3 teeth nearly equal.

BLOSS. butterfly-shaped.

Standard oblong; distant from the keel; entirely bent back.

Wings oblong; flexible; shorter than the other petals.

Keel straight; notched at the end; longer than the standard.

CHIVES. *Threads* 10; connected; rising out of the keel.

Tips simple.

POINT. *Seed-bud* oblong. *Shaft* simple; rising upwards.

Summit sharp; rolled inwards.

S. VESS. *Shell* roundish; turgid; with 1 cell and 2 valves.

SEEDS solitary; generally kidney-shaped.

ESS. CHAR. *Empalement* with 2 lips, the upper with 2 teeth, the lower with 3. *Standard* oblong, bent downwards from the pointal and chives.

* Without thorns.

dyer's GENIS'TA *tinctoria*. Leaves spear-shaped, smooth;
LINN.—fringed with soft hairs. Sr.

Fl. dan. 126.—*Fuchf.* 808, *cop. in Trag.* 604, *Dod.* 763. 1, and *J. B. i. b.* 391.—*Ger.* 1134. 1.—*Clus. i.* 101. 2, *repr. in Lob. obs.* 521. 2, *ic. ii.* 90. 2, *Ger. em.* 1316. 1, and *cop. in Park.* 229. 7.—(*Riv. pent.* 67. 1, *Genistella* is the broad-leaved variety, the *G. tinctoria italica* of the London gardens.)

Flowers in leafy spikes. *Flower-leaves* shorter than the blossoms. *Empalement* with 5 nearly equal clefts. *Bloss.* standard egg-shaped, blunt; *wings* oblong-oval, *keel* compressed. *Summit* a little knob. *Blossoms* yellow. WITH.

Green-weed. *Green-wood.* *Dyers-weed.* *Wood Waxen.*

Pastures and borders of corn fields.

S. July.

A yellow colour may be prepared from the flowers, and for wool that is to be dyed green, the dyers prefer it to all others. A dram and a half of the powdered seeds, operates as a mild purgative. A decoction of the plant is sometimes diuretic, and therefore has proved serviceable in dropical cases.

Horses, Cows, Goats, and Sheep eat it.

GENIS'TA

GENIS'TA *pilosula*. Leaves spear-shaped, blunt. *hairy*
Stem with tubercles, lying down.—

Jacq. fl. iii. 208.—Rose 3. 1.—Clus. i. 103. 2, repr. in Ger. em.
1313. 6.—Ger. 1132. 6, cop. in J. B. i. 393. 2.

Pods with many or only 2 seeds. REICH.—Stem and branches
tough, lying close to the ground, even beneath the moss; stem
much branched; the old branches naked, the young ones clothed
with leaves. Leaves numerous, minute, oval, or oval-spear-
shaped, entire, smooth above, with white silky hairs underneath.
Flowering-branches ascending. Flowers in short spikes at the ends of
the branches. Fruit-stalks short, hairy. Empalement hairy, yellow-
ish green; lips nearly equal, pointed. Bloss. yellow, hairy with-
out, excepting the wings. Shells hairy. Mr. WOODWARD.

Pastures, heaths, dry and hilly places. About Lackford, 4 or 5
miles from St. Edmund's Bury. Sir J. CULLUM.—[Heaths near
Bury, which are perfectly yellow with it when in flower, but after
flowering it is with difficulty found, the stems lying so close to the
ground. Mr. WOODWARD.]

S. May. June.

GENIS'TA *anglica*. Thorns simple. Flowering *needle*
branches without prickles. Leaves spear-shaped. LINN.
—Flowering branches sometimes with soft thorns. M. WOODW.

Fuchf. 220, cop. in Trag. 962.—Fl. dan. 619.—Dod. 760, repr. in
Lob. obs. 535. 2, ic. ii. 93. 2, Ger. em. 1320. 4, and cop. in
Park. 1004. 4.—Ger. 1140. 5.—Lonic. i. 39. 1.—(J. B. i. b.
402. 1, seems a different plant.)

The old branches thorny, the flowering branches without thorns,
with scattered thorns. RELHAN.—Stem much branched. The old
branches tough, without leaves, beset with thorns; thorns very
sharp, slender, $\frac{1}{4}$ to $\frac{1}{2}$ an inch long; the shoots of the year in bun-
dles at the end of the old ones, but sparingly from the sides, with
numerous leaves intermixed with soft thorns. Leaves sometimes
oval, smooth, entire, small, bright green. Flowers pale yellow,
small, few. Shells short, broad, smooth, with 3 or 4 seeds. Mr.
WOODWARD.—Empalement yellow. Summit a small knob. WITH.
Genista spinosa minor germanica. C. B. pin. 395, if we may judge
from the authors referred to, notwithstanding what Ray observes.

Needle Furze. Petty Whin.

Heaths, and moist spongy ground. [Bungay Common, Suff.
T. WOODWARD.]

S. May. June.

The *Pahlana pist* lives upon both species.

932. U'LEX. Gorze.

EMPAL. *Cup* permanent; *leaves* 2; oblong-egg-shaped; concave; straight; equal; a little shorter than the keel; the upper with 2 teeth; the lower with 3.

BLOSS. butterfly-shaped; of 5 petals.

Standard inversely heart-shaped; notched at the end; upright; very large.

Wings oblong; blunt; shorter than the standard.

Keel of 2 petals; straight; blunt; approaching at the lower edge.

CHIVES. *Threads* 10; united. *Tips* simple.

POINT. *Seed-bud* oblong; cylindrical; hairy. *Shaft* thread-shaped; rising upwards. *Summit* blunt; small.

S. VESS. *Shell* oblong; turgid; nearly inclosed by the cup; straight; with 1 cell and 2 valves.

SEEDS few; roundish; notched.

ESS. CHAR. *Empalement* of 2 leaves. *Shell* hardly longer than the empalement.

common U'LEX *europæus*. Leaves woolly, pointed. Thorns scattered, LINN.—branched. ST.

α Thorns longer. C. B.

Fl. dan. 603.—*Clus.* i. 106. 2, repr. in *Dod.* 659. 1, *Ger. em.*

1319. 1, and cop. in *Park.* 1004. 1.—*J. B.* i. b. 400. 2.—*Ger.*

1139. 3.

Shrub upright, 3 to 6 feet high; of a pyramidal outline. *Branches* upright, scored, woolly, flexible. *Leaves* awl-shaped, spit-pointed, smooth above, woolly underneath, solitary, upright, 1 at the base of each thorn. *Thorns* real extensions of the stem, needle-shaped, quite straight, expanding, woolly, stiff, sharp-pointed, brown at the points, twice or thrice as long as the leaves; branched; the branches sub-divided. *Blossoms* permanent. ST.—*Stems* deeply furrowed, more woolly than the leaves. *Thorns* awl-shaped, a little bowed downwards, woolly at the base, yellow at the ends. *Leaves* terminating in sharp, yellowish, thorny points. *Empalement* double; the outer very small, brown, of 2 leaves; the inner woolly. *Bloss.* not remarkably so, bright yellow; *standard* fleshy at the base; *wings* fleshy at the base, set with hairs along the lower edge, curiously wrinkled along the upper; *keel*, the petals united by an intertexture of woolly hairs. WITH.—*Bloss.* sometimes, though rarely, white. Begins to blossom early in the spring,

spring, and continues in flower till autumn. RAY.—Out of flower August 19, when variety β was in full blossom. ST.

β . Thorns shorter, C. B.—slenderer, of a paler green, but not so thick set, or so sharp. Lower and smaller. Blofs. paler. RAY.

Ger. 1140. 6, *cop. in Ger. em.* 1321. 6, and *Park.* 1004. 3.

Begins to flower when variety α is going out. RAY.—*Shrub* 1 to 2 feet high, of a roundish outline. *Branches* spreading, crowded, nearly equal in length, like those of variety α , but stiffer. *Leaves* fringed. *Thorns* 3 times as short as those of variety α , horizontal, 3 and 4 square, even, smooth, except at the base, where they are somewhat downy; *branches* expanding. Growing with variety α on Barr Beacon, near Birmingham. In full blossom August 19. It seems to be a truly distinct variety. ST.—*Park.* at p. 1004, seems to distinguish two sorts of common Gorze, viz. one with “the cods small and short without any freeze;” this is the smaller shrub; the other with “thick and short pods covered with a whitish hoary freeze;” this is the taller and larger sort. See also the difference he points out in the leaves, which, in the smaller sort, do not fall off so soon as in the larger. WITH.

Genista aculeata minor, *five Nepa Theophrasti*. GER. and GER. em. (ST.)

Gorze (in the midland counties.) Furze (Dorsetshire and some other parts of England.) Whins (Westmoreland).

Heaths and barren pastures. Lowlands of Scotland, but rare in the Highlands. LIGHTF. ST.—At Comrie in Strath-Ern, but in no part of Breadalbane. Mr. STUART. S. Apr.—Nov.

[All the year, but never more beautifully than in September and October. WITH.]

This is a very hardy plant, and will make fences upon the bleakest mountains, and close to the sea side, where the spray of the sea destroys almost every other shrub. It is cut to make faggots for heating ovens, which it does very soon, burning rapidly, and with a great degree of heat. The ashes are used to make ley. Team Horses may be supported by this plant if it is cut young and bruised in a mill to break the thorns.

Goats, Cows, Sheep, and Horses feed upon the tender tops.

935. O. N O' N I S. Restharrow.

EMPAL. *Cup* with 5 divisions; nearly as long as the blofs. *Segments* strap-shaped; taper; a little bowed upwards; the lowest under the keel.

BLOSS. butterfly-shaped.

Standard heart-shaped; scored; with the sides depressed more than usual.

Wings egg-shaped; half as long as the standard.

Keel tapering; generally longer than the wings.

CHIVES. *Threads* 10; united and forming a complete undivided cylinder. *Tips* simple.

POINT. *Seed-bud* oblong; woolly. *Shaft* simple; rising upwards. *Summit* blunt.

S. VESS. *Shell* diamond-shaped; turgid; a little woolly; with 1 cell and 2 valves.

SEEDS few; kidney-shaped.

ESS. CHAR. *Empalement* with 5 divisions; *segments* strap-shaped. *Standard* scored. *Shell* swollen; *sitting*. *Threads* growing together without any fissure.

* *Flowers* nearly *sitting*.

thorny O. N O' N I S *spino'sa*. LINN. *fl. suec.*—Flowers in bunches. Leaves 3-fold and solitary. Branches thorny. RETZ. *prodr. fl. scand.*—Flowers mostly solitary. Upper-leaves solitary, bare. Branches smooth. HUDS.—Blofs. twice as long as the empalement. MR. WOODWARD. ST.—Branches slightly woolly. ST.

Sheldr. 79.—Blackw. 301.—Riv. tetr. 69, *Anonis.*—H. ox. ii. 17.

row 1. 1. f. 3.—H. dan. 783.*—J. B. ii. 391. 2.—Ger. 1141.

1.—Fuchf. 60, abridged in Trag. 869.—Matth. 674, imitated in Dod. 743. 2, Lob. obs. 492. 2, ic. ii. 28. 1, Ger. em. 1322.

1, and cop. in Park. 994. 1.—Lonic. i. 72. 1.

Plant with a clammy downiness, early in the summer without thorns, when fuller grown becoming thorny, as Loefel has well observed. *Stem-leaves* 3-fold; *flower-leaves* simple. *Flowers* almost sitting, solitary, from the sides of the branches, 2 together, on distinct fruit-stalks. LINN.—Notwithstanding what Linnæus observes, from Loefel they seem to be distinct species. They are seldom found together, and the *O. arvensis*, without thorns, has never

* Leaves too pointed and too deeply serrated. MR. WOODWARD.

never with us been observed to become thorny. ST. in *Bot. Arr. ed.*
 I.—In the autumn of 1779 I examined many hundreds of *O. arvensis* in the corn fields at Berkhamstead, Hertfordshire, without finding a single one with thorns, while in the neighbourhood of Bungay, Suffolk, I never found one without thorns in any season of the year. Mr. WOODWARD.—Loefel only says, that “ in the “ spring and early in the summer it is smooth, (*lævis*) but that afterwards it acquires prickles.” Mr. DRYANDER in *Retz. obs.* ii. n. 68.—Stems lying down, woolly, reddish, thorny, especially from the base to the middle. Thorns awl-shaped, pungent, with sometimes 1 or 2 leaves. Flowers mostly solitary, but when 2 they are fixed to a cloven fruit-stalk. RETZ.—Miller, Gouan, and Retzius have shewn, that this is specifically different from *O. arvensis*, and not merely a variety the effect of culture. MURR.—Whole plant more woody and rigid than *O. arvensis*. Stem slightly hairy. Branches terminating in softish thorns. Thorns at the base of the young branches, strong, early in the summer not pungent. Leaves almost smooth. Empalement hairy; segments awl-shaped, unequal. Blofs. twice as long as the empalement. Mr. WOODWARD.

Ononis arvensis spinosa. LINN. sp. pl. and LIGHTF.

Restharrow. Cammock. Petty Whin. Ground Furze.

Barren pastures, [sometimes in moist meadows. ST.]

A decoction of the roots has been recommended in cases of stone and jaundice.—Cows and Goats eat it. Sheep are very fond of it. Horses and Swine refuse it. LINN.—A Horse refused the whole branch, but eat of the younger shoots when picked off. ST.

ONONIS *arvensis*. Flowers in bunches, in pairs. hairy
 Leaves 3-fold, the upper solitary. Branches without
 thorns, somewhat woolly. LINN.—Flowers mostly in
 pairs. Branches woolly. HUDS.—Blossoms but little
 longer than the empalement. Mr. WOODWARD. ST.—
 Flowers solitary. ST. Mr. HOLLEFEAR.

Clus. i. 99. 1, repr. in *Ger. em.* 1322. 3, and cop. in *J. B.* ii.

393. 2.—*Ger.* 1142. 3.—A good figure is wanting.

Plant clammy, strong scented. Leaf-scales ferrated, cloven at the end, widening downwards. Mr. HOLLEFEAR.—Blofs. sometimes white. REICH.—Stem and branches woolly. Leaves somewhat woolly, broader, more egg-shaped, and not so elliptical as those of *O. spinosa*. Flowers more numerous, mostly solitary, on the young shoots; alternate. Empal. segments more tapering. Mr. WOODWARD.—Stems and branches woody, cylindrical, a little hairy. Leaves set with glandular hairs; the upper oblong-egg-shaped, toothed. Leaf-stalks short, fixed to a broad toothed leaf-

scale. *Flowers* scattered, intermixed with leaves. *Empal.* some of the hairs long and tapering, others short and tipped with glands; segments, 4 of them pressing on the standard, the lowermost supporting the keel. *Bloss.* standard circular, with a small point at the end, with short hairs on the outside, of a fine rose-colour, streaked with deeper coloured lines; *wings* more than half as long as the standard, egg-shaped, white; *keel* coloured and streaked as the standard. *Tips* yellow. *Seed-bud* with hairs tipped with glands. *Seeds* about 6. WITH,

Ononis inermis. HUDS.

It is sometimes pickled as Samphire.

β HUDS. I have cultivated this and α for 4 years, without being able to discover any specific difference. Both are woolly and somewhat clammy, and the flowers solitary, in pairs, and sometimes in threes. HUDS.

Ononis repens, which see.

creeping ONO'NIS *repens*. Stems spreading. Branches upright. Upper-leaves solitary. Leaf-scales egg-shaped. LINN.—*Empal.* nearly as short again as the bloss. ST.*

Dill. elth. 25. 28.

Very closely allied to *O. arvensis*, but differs in its trailing stems spreading on every side, and in being smaller. *Flowers* solitary, from the bosom of the leaves. LINN.—Inclined to believe it only a variety, having observed it sometimes to acquire thorns. LIGHTF.—Whole plant clammy, not so downy as *O. arvensis*. *Flowers* larger and fewer. *Leaflets* oblong-wedge-shaped. *Empal.* segments shorter and blunter. Whether distinct from *O. arvensis* difficult to say, but I am inclined to Mr. Hudson's opinion, as being removed into a garden it became upright, and more downy. If a variety it is of *O. arvensis*, and not of *spinosa*. Mr. WOODWARD.—*Habit* that of *O. arvensis*. *Branches* and *empalements* as woolly as those of *O. arvensis*, but the observation of Mr. Lightfoot, joined to the proportionate length of the blossom and empalement, induce me to believe it, if not a distinct species, to be a variety of *O. spinosa*. Mr. Woodward informs us that *O. repens* is common on the coasts of Norfolk and Suffolk. The *spinosa* is equally common in their fields, while the *arvensis* never appears there. Specimens from the sea coast of Cornwall and gardens equally woolly. ST.—*Bloss.* red or almost white.

* Calyce corollis duplo brevior. ST.

Sea shore in sandy soils, frequent. **LIGHTF.**—Field by Charleton Church, between the gravel pit and Woolwich, towards Graveend, and on the sand downs by Deal, and near Yarmouth. **RAY.**
P. June. July.

936. ANTHYL'LIS. Ladies-finger.

EMPAL. Cup 1 leaf; egg-oblong; bellying; woolly. Rim with 5 unequal teeth; permanent.

BLOSS. butterfly-shaped.

Standard long; with reflected sides, and a claw as long as the cup.

Wings 2; oblong; shorter than the standard.

Keel compressed; as long as the wings, and like them.

CHIVES. Threads 10; connected; rising upwards. Tips simple.

POINT. Seed-bud oblong. Shaft simple; ascending. Summit blunt.

S. VESS. Shell roundish; inclosed in the cup; very small; with 2 valves.

SEEDS 1 or 2.

ESS. CHAR. Empalement bellying. Shell roundish; covered.

ANTHYL'LIS *Vulneraria*. Herbaceous. Leaves common winged, unequal. Flowers in a double head.—

Dill. elth. 431. 320.—*Riv. tetr.* 18. 1, *Anthyllis*.—*Ger.* 1060. 1, and 1023. 1.—*J. B.* ii. 362.—*Dod.* 552. 1, repr. in *Lob. obs.* 530. 1, ic. ii. 87. 2, *Ger. em.* 1240. 1, and cop. in *Park.* 1093. 1.

Stems cylindrical, downy. Leaves downy, with the hairs lying close, with 5 or 6 pair of leaflets. Flowers sitting, in one of the larger heads 20. Empalement membranaceous, hairy, contracted at the mouth, with 2 lips. Bloss. standard, edges rolled back; wings complicated with and longer than the keel, the claws very long. Bloss. deep yellow. Tips small, deep yellow. Summit knobbed, yellowish. Floral-leaves at the base of the heads somewhat hand-shaped, those at the base of the fruit-stalks bristle-shaped. **RELH.**

Kidney Vetch. Ladies-finger.

Meadows and pastures, in chalk or a calcareous soil; [and also on decayed basaltic rock containing iron, as Arthur's Seat, Edinburgh. **ST.**—Limestone pits, Cradley, near Malvern Hill, Worcestershire. **MR. BALLARD.**]

P. July.
The

The country people get a yellow dye from it. It makes an excellent pasturage for Sheep. Where the soil was a reddish clay Linnæus observed the blossoms to be red, but in white clay white.

Goats and Cows eat it.

β Blossoms scarlet. LINN.

Pembrokeshire. RAY.—Isle of Anglesea. HUDS.

944. PISUM. Pea.

EMPAL. *Cup* 1 leaf; with 5 clefts; sharp; permanent; the 2 upper segments the broadest.

BLOSS. butterfly-shaped.

Standard very broad; inversely heart-shaped; reflected; notched at the end; with a point between.

Wings 2; circular; approaching; shorter than the standard.

Keel compressed; half-moon-shaped; shorter than the wings.

CHIVES. *Threads* 10; 1 simple; superior; awl-shaped; flat; 9 awl-shaped; united from the middle downwards into a cylinder, which is cloven towards the top. *Tips* roundish.

POINT. *Seed-bud* oblong; compressed. *Shaft* ascending; triangular; membranaceous; keeled; the sides bent outwards. *Summit* fixed to the superior angle; oblong; woolly.

S. VESS. *Shell* large; long; somewhat cylindrical, or compressed below; the point tapering upwards; 1 cell; 2 valves.

SEEDS many; globular.

ESS. CHAR. *Shaft* triangular, keeled and downy above. *Empal.* the 2 upper segments shorter.

sea PISUM *maritimum*. Leaf-stalks flattish above. Stem angular. Leaf-scales arrow-shaped. Fruit-stalks with many flowers.—

11. dan. 338.—Munt. phyt. 825. 230.—Ger. em. 1220. 5, cop. in Park. 1060. 4.—Park. 1060. 5.

Whole plant, excepting the upper surface of the leaves, slightly downy. Root creeping. Stems angular. Leaf-stalks with many leaflets, flattish above, with tendrils. Leaflets, the outer smaller. Leaf-scales opposite, angular at the base on each side, scarcely toothed. LINN.—Roots striking extremely deep in the earth. Stems trailing,

trailing, short; the outline of the whole oval. *Leave*, numerous, alternate; *leaflets* oval, alternate, sitting, smooth, the outer not always smaller, on the lower-leaves 5 to 7, on the upper 9 to 11, there being always one more on the outer side of the leaf-stalk. *Leaf-stalks* angular. *Tendrils* terminating the leaf-stalk, generally cloven, sometimes simple. *Leaf-scales* in pairs, oval-spear-shaped, broad, arrow-shaped at the base. *Flowers* towards the end of the fruit-stalks, crowded, on short pedicles. Mr. WOODW.—*Bloss.* pale red and purple.

Sea shores. On a stony beach between Aldburgh and Orford, [not Oxford, as Linn. in Fl. lapp.] Suff. RAY. [Mr. WOODW.] —Near Hastings, Suffex, and on the west side of Dengeness, near Lyd, in Kent. RAY.—Rie and Pensie, Suffex; Guildford, over against the Comber; and Ingolne Mills, Lincolnsh. P. Aug.

In 1555, during a time of great scarcity, the people about Orford, in Suffex, were preserved from perishing, by eating the seeds of this plant, which grew there in great abundance upon the sea coast.

Cows, Horses, Sheep, and Goats eat it.

It affords nourishment to the *Phalæna Piji*.

945. OR'OBUS. Peaseling.

EMPAL. *Cup* 1 leaf; tubular; blunt at the base. *Rim* oblique; very short; with 5 teeth; the 3 lower the sharpest; the 2 upper shorter; deeper and more bluntly divided; shrivelling.

BLOSS. butterfly-shaped.

Standard inversely heart-shaped; long; reflected at the end and at the sides.

Wings 2; oblong; nearly as long as the standard; rising upwards; approaching.

Keel evidently cloven in the lower part; taper; rising upwards; edges approaching; parallel; compressed; the bottom distended.

CHIVES. *Threads* 10; ascending; 9 united. *Tips* roundish.

POINT. *Seed-bud* cylindrical; compressed. *Shaft* thread-shaped; bent upwards; upright. *Summit* strap-shaped; on the inner side downy from the middle to the end of the shaft.

S. VESS. *Shell* cylindrical; long; taper-pointed; ascending at the end; 1 cell; 2 valves.

SEEDS many; roundish.

Ess. CHAR. *Shaft strap-shaped. Empalement blunt at the base; the upper segments deeper and shorter.*

heath OR'OBUS *tubero'sus*. Leaves winged, spear-shaped. Leaf-scales half-arrow-shaped, very entire. Stem simple.

Curt. i. 4.—Riv. tetr. 59, *Orob. rad. tub.*—[Sibbald 1.*]—Ger. em. 1237. 2, cop. in *H. ox.* ii. 21. row 2. f. 3.—*Fl. dan.* 581.—*Thal.* 1, cop. in *Park.* 1062. 5.

Stems at first drooping, but upright when in flower. LINN.—*Leaf-stalks* terminated by a short-straight tendril. *Leaf-scales* half-arrow-shaped, entire, or with 1 or 2 teeth. CURT. ST.—*Tendril*, or what is analogous to a tendril, awl-thread-shaped, about equal in length to the breadth of the leaflets, many times narrower than the leaf-stalk. *Empal.* the points of the 2 upper teeth pointing towards each other. ST.—*Leaflets*, 1 to 3 pair, fitting, elliptical, the upper ones narrower and nearly strap-shaped, without an odd one, but the leaf-stalk is extended into a sort of point. *Leaf-scales* in pairs at the base of the leaf-stalks. *Flowers* 4 or 5 in a bunch, on short slender pedicles. MR. WOODW.—*Stems* with 2 or 3 membranaceous leafy edges. *Leaflets* with 3 longitudinal veins, and terminated by a sharp point. *Shaft* strap-shaped, not pointed at the end. *Shell* flat. *Seeds* compressed, about 12. WITH.—*Blossoms* purple, 3 or 4 together. *Shells* black, pendant.

The roots, when boiled, are savory and nutritious; ground to powder they may be made into bread. They are held in high esteem by the Highlanders of Scotland, who chew them, as our people do Tobacco, and find that they prevent the uneasy sensation of hunger. They imagine that they promote expectoration, and are very efficacious in curing disorders of the lungs. They know how to prepare an intoxicating liquor from them. *Penn. tour.* 1772. p. 310. *Ray's hist. plant.* p. 916.

Horses, Cows, Goats, and Sheep eat it.

wood OR'OBUS *sylvaticus* Stems drooping, hairy, branched.—

Lightf. 16. at p. 390.—*Mem. de l'acad. des sciences* 1706. t. 90. at p. 87, *I have not seen.*

Stems branched, scored. *Leaflets*, 6 or 7 pair. *Bloss.* red without, within white, with purple lines. *Shells* compressed. *Seeds* 2 or 3. LINN.—*Stems* numerous, trailing, much branched, but slightly hairy, as are even the younger shoots. *Leaves* winged, alternate; *leaflets* oval, or elliptical, in none of my specimens acutely pointed,

pointed, terminated by a point which is an extension of the mid-rib, on short hairy leaf-stalks, somewhat alternate, 6 to 12 pair, without an odd one, but with a sort of beard terminating the general leaf-stalk. *Leaf-stalk* slightly hairy. *Flowers* numerous, to 12, on short pedicles, crowded, mostly pointing one way, on the summit of a long naked fruit-stalk. *Leaf-scales* half-arrow-shaped, 2 at the base of each general leaf-stalk, smaller than those of the *O. tuberosus*, and terminated by a more acute point. *Empal.* short, green, tinged with red, fringed, somewhat lipped, lips nearly equal, the upper with 2 teeth, the lower with 3, rather longer. *Bloss.* long and narrow. *Pods* short, smooth. Mr. WOODWARD.

Bitter Vetch.

Woods, hedges, pastures, dry rocky places, and banks of rivers. Ten miles from Penrith; Gamblesby, Cumberland. RAY. Mr. WOODWARD.—Below Brecknock Hills in the way to Cardiff, and not far from Bala, Merionethshire. Upper part of Merley Wood, near Oxford. RAY.—Several places in Scotland. See *Fl. scot.*—Near Ross-Trevor, Ireland. RAY. P. May.—July.

946. LATH'YRUS. Vetchling.

EMPAL. *Cup* 1 leaf; bell-shaped; with 5 shallow clefts; *segments* spear-shaped; sharp; the 2 upper shortest; the lower one longest.

BLOSS. butterfly-shaped.

Standard inversely heart-shaped; large; reflected at the end and at the sides.

Wings oblong; crescent-shaped; short; blunt.

Keel half a circle; as large as the wings; but broader; opening inwardly at the middle.

CHIVES. *Threads* 10; rising upwards; 9 united. *Tips* roundish.

POINT. *Seed-bud* compressed; oblong; narrow. *Shaft* upright; flat and broad towards the top; sharp at the end. *Summit* woolly; extending from the middle of the shaft to the end, along the fore part.

S. VESS. *Shell* very long; cylindrical, or compressed; tapering to a point. *Valves* 2.

SEEDS many; either cylindrical, or nearly globular.

ESS. CHAR. *Shaft* flat; woolly above; broader upwards.

Empal. the 2 upper segments shorter.

OBS. This genus is very nearly allied to *Pisum*, but is evidently distinct in its shaft.

* *Fruit-stalks*

* *Fruit-stalks bearing 1 flower.*

yellow LATH'YRUS *Aph'aca*. Fruit-stalks with 1 flower. Tendrils without leaves. Leaf-scales arrow-heart-shaped.

Giesf. 41.—*Mill. ill.* 43.—*Lob. obs.* 518. 1, repr. in *ic.* ii. 70. 1, *Ger. em.* 1250, and cop. in *Park.* 1067, and *H. ox.* ii. 4. 7.

Leaf-scales opposite, very entire, smooth, sea green. *Tendrils* horizontal, simple, alternate. *Fruit-stalks* longer than the leaf-scales. *RELH.*—*Stems* 4-cornered, trailing. *Leaf-scales* oval-spear-shaped, arrow-shaped at the base, in pairs, smooth, somewhat sea-green, marked underneath with numerous parallel ribs, larger towards the top of the stem. *Fruit-stalks* long, from the bosom of the leaf-scales, alternate. *Tendrils* solitary, simple, opposite to the fruit-stalks. *Floral-leaves* awl-shaped, minute, 1 at the base of each flower. *Empal.* divided almost to the base; *segments* equal, smooth, nearly as long as the blossom, strap-spear-shaped. *Bloss.* greenish yellow at the base. *Mr. Woodw.*—*Tendrils* with sometimes 2 spear-shaped leaves joined together at the base, but this is very rare. *Blossoms* yellow.

Sandy corn fields and meadows. [Histon, near Cambridge, and between Norwich and Bungay. *Mr. Woodw.*] A. June—Sept.

The seeds, both of this and of all the other species, are nutritious, either eaten in broth or made into bread.

crimson LATH'YRUS *Nissolia*. Fruit-stalks with 1 flower. Leaves simple. Leaf-scales awl-shaped. *LINN.*—*Fruit-stalks* sometimes with 2 flowers. *HUDS.*

Buxb. iii. 45. 1.—*Dod.* 529. 1, repr. in *Lob. obs.* 518. 2, *ic.* ii. 71. 1, *Ger. em.* 1249. 2, and cop. in *Park.* 1079. 4, and *J. B.* ii. 309. 1.

Stem upright. *Tendrils* none. *Leaf-scales* very small. *LINN.*—*Stem* upright, simple, angular, twisted, slightly hairy. *Leaves* alternate, smooth, sword-shaped, resembling those of Grass. *Leaf-scales* in pairs, at the base of the leaves. *Fruit-stalks* from the bosom of the leaves, about $\frac{3}{4}$ as long, slightly hairy. *Flower-scales* awl-shaped, small, 1 at the base of each flower. *Bloss.* beautiful crimson. *Pods* strap-shaped, bending downwards, slightly downy, terminated by a straight shaft. *Mr. Woodward.*—*Shells* pendant.

Crimson Grass Vetch.

Borders of corn fields and pastures, not uncommon. *HUDS.* *St.*—[Ripton, Huntingdonshire. *Mr. Woodw.*—Coton Field, near Stafford. *With.*] A. May.

This is a very beautiful plant, and merits a place in our flower borders.

** *Fruit-stalks*

** *Fruit-stalks with many flowers.* LINN.—*L. hirsuta* has sometimes fruit-stalks with only 1 flower. ST.

LATH'YRUS *hirsutus*. Fruit-stalks with mostly 3 flowers. Tendrils with 2 leaves. Leaves spear-shaped. Shells hairy. Seeds rough. LINN.—*Fruit-stalks with sometimes 1 or 2 flowers,* HUDS.—*mostly 2.* Mr. WOODWARD.

J. B. ii. 305.—(*Riv. tetr. 41, L. siliquis hirsutis is wanting in our copy.*)

Flowers purple. LINN.—*Stems angular, twisted, slightly hairy. Leaflets, a single pair, slightly hairy, with 3 strong ribs, terminated by an awn. Leaf-stalks triangular, furrowed above, terminated by a tendril. Tendrils mostly dividing into 3. Leaf-scales half-arrow-shaped, pointed, with long appendages, 2 at the base of each leaf-stalk. Fruit-stalks very long. Flowers at about 1 or $1\frac{1}{2}$ inch from each other. Flower-scales awl-shaped, small, about $\frac{1}{4}$ th of an inch beneath the terminating flower, and at the base of the short pedicle of the lower. Empalement 1-3rd as long as the blossom; clefts extending half way down; segments 5, equal. Pods short, covered with hair, each hair proceeding from a gland.* Mr. WOODWARD.—*Bloss. with yellow lines within.*

Corn fields and ditch banks. Fields about Hockley and Rayleigh; and elsewhere in Rochford, Essex. RAY.—Near Munden Church and Laydon Hall in Denyng Hundred, Essex. BLACKST. A July.

LATH'YRUS *pratensis*. Fruit-stalks with many flowers. Tendrils with 2 leaves, quite simple. Leaflets spear-shaped. LINN.—*Tendrils sometimes with 3 clefts,* LINN.—*and sometimes with 2.* Mr. WOODWARD.

Curt. iii. 29.—*Riv. tetr. 43, L. pratensis.—Fl. dan. 527.—J. B.*

ii. 304. 2.—*Walc.—H. ox. ii. 2. 2.—Anderson.—Lob. obs. 517.*

3, repr. in ic. ii. 69. 2, Ger. em. 1231. 6, and cop. in Park.

1061. 1.

Leaflets between coiled and rolled inwards. Leaf-scales very entire, halberd-shaped. Fruit-stalks 4-cornered. LINN.—*Tendrils sometimes, tho' rarely, cloven.* Mr. HOLLEFEAR.—*Stem much branched. Leaves smooth. Leaf-stalks furrowed, 3-cornered, terminating in tendrils. Leaf-scales spear-arrow-shaped, large, in pairs at the base of each leaf-stalk. Fruit-stalks long, with 4, 5, or more flowers. Pedicles short, hairy. Flower-scales awl-shaped, very minute, 1 at the base of each pedicle. Empalement 1-3rd as long as the blossom, somewhat hairy, cloven half way down; segments rather unequal. Shells black, smooth.* Mr. WOODWARD.—*Leaflets very entire. Empal. the 2 upper teeth approaching. Bloss. yellow;*

yellow; *standard* with 6 or 7 purple lines just above the claw. *Tips* oblong. WITH.

Tare Everlasting. Common Yellow Vetchling.

Meadows, pastures, woods, thickets, and hedges. P. July—Aug.

Horses, Cows, Sheep, and Goats eat it. Swine refuse it.

narrow-leaved LATH'YRUS *sylvest'ris*. Fruit-stalks with many flowers. Tendrils with 2 leaves. Leaflets sword-shaped. Stem with membranaceous borders between the knots.—

Fl. dan. 325.—*Riv. tetr.* 39. *L. sylvaticus*.—*Clus.* ii. 129. 2, repr. in *Lob. obs.* 517. 1, ic. ii. 68. 2, *Ger. em.* 1229. 1, and rudely cop. in *Park.* 1063. 3.—*Fuchs.* 572, cop. in *Trag.* 613, *Dod.* 523. 2, and *J. B.* ii. 302. 2.—*H. ox.* ii. 2. 4.

Stems widely spreading, climbing, or trailing. *Leaf-stalks* rough at the edge. *Leaflets* strap-shaped, not broader than the stem. *Leaf-scales* awl-shaped, very narrow. LINN.—*Leaves* not so stiff as those of *L. latifolius*. *Leaflets* sometimes, though rarely, 2 pair. *Leaf-stalks* bordered. Bunches of fewer flowers than those of *L. latifolius*. *Flowers* not more than 6 in a bunch, as small again as those of *L. latifolius*. HALL. ST.—*Leaf-scales* half-arrow-shaped, in pairs. *Tendrils* cloven into 3. *Floral-leaves* awl-shaped, 1 at the base of each pedicle. MR. WOODWARD.—*Leaflets* broader than the stem, as in the figure of the *Fl. dan.* *Flowers* 3 to 9 in a bunch. ST.—*Bloss.* red or white; sometimes by cultivation dark purple.

Ervum sativum. FUCHS. 572, (not *E. sylvestre*.) ST.

Narrow-leaved Pease-everlasting.

Woods and hedges. Between Castle-Campes and Bartlow, Cambridgeshire. RAY. RELH.—Between Bath and Bristol, and Conway, Wales. HUDS.—Wood sides between Perfhore and Eckington, Worcestershire. NASH.

P. July. Aug.

Horses, Cows, Sheep, and Goats eat it.

broad-leaved LATH'YRUS *latifo'lius*. Fruit-stalks with many flowers. Tendrils with 2 leaflets. Leaflets spear-shaped. Stem with membranaceous borders between the knots.—

Mill. ill.—*Fl. dan.* 785.—*Riv. tetr.* 40, *L. narbonensis*.—*Garid.* 108. at p. 300.—*Matth.* 971.—(*Lob. obs.* 517. 1, repr. in ic. ii. 68. 2, and *Ger. em.* 1229. 1, and rudely cop. in *Park.* 1063. 3, are re-impressions of *Clusius* ii. 129. 2, which Linnaeus has very justly referred to *L. sylvestris*.)

Leaflets rolled in, elliptical, several times broader than the stem, sometimes 4. *Leaf-scales* broader than the stem, nearly halberd-shaped. LINN.—*Empal.* the 3 lower segments longer, nearly equal. MR. HOLLEFEAR.—*Leaves* blunt, with a short awn at the end.

Tendrils

Tendrils with many divisions. *Leaf-scales* spear-half-arrow-shaped, in pairs. *Flowers* more numerous, and larger than those of *L. sylvestris*. *Floral-leaves* awl-shaped, 1 at the base of each fruit-stalk. Mr. WOODWARD.—*Blossoms* pale purplish rose-colour.

Broad-leaved Pease-everlasting.

Woods and hedges. Modingley, Everfden, and Kingston Woods, near Cambridge. Rocks near Red Neese by Whitehaven. [Severn Stoke Copse, Worcestersh. Mr. BALLARD.] P. July. Aug.

The beauty of its flowers has obtained it a place in our shrubberies and flower borders. ST.

LATH'YRUS *palustris*. Fruit-stalks with many *marsh* flowers. *Tendrils* with many leaflets. *Leaf-scales* spear-shaped.—

Fl. dan. 399.—*Pluk.* 71. 2.—*Rupp.* 1. at p. 210.—(*Tourn.* 218, is a different species.)

Stem with leafy borders. *Leaflets* 6, spear-shaped. *Leaf-scales* half-arrow-shaped. *Fruit-stalks* with generally 3 flowers. *Blossoms* blue. RETZ.—Whole plant smooth. *Stems* with somewhat membranaceous edges. *Leaflets* 2 or 3 pair, spear-shaped. *Leaf-scales* half-arrow-shaped, pointed, small. *Tendrils* with 3 clefts. *Flowers* 3 to 6, or more, pointing one way. *Floral-leaves* awl-shaped, 1 at the base of each pedicle. *Empal.* upper segments broader, the lowest awl-shaped. Mr. WOODWARD.

Chickling Vetch.

Moist meadows and pastures. Peckham Field on the back of Southwark. RAY.—Wood near Abington. BLACKST.—Charley Forest, near Bardon Hill, Leicestersh. Dr. POULTNEY.—Lancash. and Yorkshire. HUDS.—Near Ranaugh, Norf. Mr. HUMPHRY.

P. July. Aug.

Horses, Cows, Sheep, and Goats eat it.

947. VIC'IA. Vetch.

EMPAL. *Cup* 1 leaf; tubular; upright; with 5 shallow clefts; sharp; the upper teeth shortest; approaching; all the teeth equal in breadth.

BLOSS. butterfly-shaped.

Standard oval; with a broad oblong claw; notched at the end, with a sharp point in the middle; reflected at the sides; compressed and raised in a line running lengthways.

Wings 2; oblong; upright; in the shape of half a heart; with an oblong claw; shorter than the standard.

Keel with an oblong cloven claw; the hollow part compressed; in the shape of half a circle; shorter than the wings.

CHIVES. *Threads* 10; 9 united. *Tips* upright; roundish; with 4 furrows.

Honey-cup Gland short; tapering; arising from the receptacle, and situated between the united threads and the seed-bud.

POINT. *Seed-bud* narrow; compressed; long. *Shaft* thread-shaped; rather short; bent upwards. *Summit* blunt; bearded on the under side at the end.

S. VESS. *Shell* long; like leather; with 2 valves, and 1 cell; terminated by a point.

SEEDS many; roundish.

ESS. CHAR. *Summit transversely bearded on the lower side.*

* *Fruit-stalks* long.

wood VIC'IA *sylvatica*. Fruit-stalks with many flowers. Leaflets oval. Leaf-scales finely toothed.—

Fl. dan. 277.—*Pluk.* 71. 1.—*Hall.* 12. 2. at i. p. 172.

Stems numerous, and so much branched that they choke whatever plants they come near. *Leaves* with 8 or 9 pair of leaflets, and terminated by a long and very much branched tendril; leaflets egg-shaped, oftener alternate than opposite; smooth, with a net-work of veins, and terminated by a short point. *Leaf-scales* in pairs, small, deeply divided into several awl-shaped segments. *Fruit-stalks* long, thick, 4-cornered, and scored; upright. *Flowers* numerous, on the upper part of the fruit-stalk pendant, growing irregularly, mostly in two's and three's, with interruptions. *Empal.* teeth awl-shaped.

shaped. *Bloss.* rather large; *standard* and *wings* whitish, beautifully veined and streaked with blue; *keel* pale blue. MR. WOODWARD.
—*Bloss. standard* without a sharp point in a notch at the end; *keel* not shorter than the wings. *Shaft* and *summit* so slender that one cannot certainly discern the beard on the under side at the end. WITH.

Woods and hedges. Woods near Caerwent, Monmouthshire; Greta Bridge, Yorkshire; Smokhall Wood Bath; Devizes, Wiltshire; Kirby Lonsdale, Westmoreland. RAY.—Skirrieth Wood, near Ingleton, Yorksh. CURT.—[Malham, near Settle, Yorksh. and elsewhere in the North. MR. WOODWARD.—Thicket on the north side of Bredon Hill, Worcesterfh. NASH.—Orton, Cumberland; Barrowfield Wood, near Kendal, MR. WOODWARD.—Woods about Clifton upon Teme, Worcesterfh. in moist places. ST.] P. July. Aug.

Horses, Cows, Sheep, and Goats eat it. LINN.

The roots somewhat resemble in taste those of liquorice. ST.

VICIA *Cracca*. Fruit-stalks with many flowers. *tufted*
Flowers tiled. Leaflets spear-shaped, downy. Leaf-scales entire.—

Fl. dan. 804.—*Riv. tetr.* 49, *Cracca*.—*H. ox.* ii. 4. 1.

Leaflets rolled in. In corn fields large and luxuriant, in meadows small and hoary. *Bloss.* sometimes white. LINN.—*Flowers* small, purplish blue, pointing one way, pendant, in bunches, tiled. RELHAN.—*Empal.* 2 upper teeth exceedingly short. MR. HOLLEF.—*Stem* when climbing on bushes 3 or 4 feet high, 4-cornered, scored, slightly hairy. *Branches* numerous, short, alternate, from the bosom of the upper-leaves. *Leaves* alternate, very long; *leaflets* strap-spear-shaped, oftener alternate than opposite, hairy, terminated by a short point, from 10 to 12 pair. *Tendrils* terminating the leaf-stalk, branched. *Leaf-scales* half-arrow-shaped, pointed. *Empalement* bluish, the 2 upper teeth extremely short, the lowermost longest. *Flowers* small, very numerous, pendant, closely tiled. MR. WOODWARD.—*Leaflets* sometimes spear-shaped, as in the fig. ST.—*Stem* angular, scored, very long, climbing. *Leaflets* rounded at the end, and terminated by a sharp point. *Tendrils* terminating the leaf-stalks. *Fruit-stalks* from the bosom of the leaves, longer than the leaves. *Bloss.* bluish purple, with 2 deeper purple spots at the extremity of the keel; *standard* heart-shaped, without a sharp point in the notch. *Shell* with 5 seeds. WITH.

Hedges, shady places, meadows, fields, [and willow beds. ST.]

P. July. Aug.

Dr. Plot, in his *nat. hist. of Staffordsh.* p. 204, says, that this and the preceding species advance starven or weak cattle above any thing yet known.

Horses, Cows, Sheep, and Goats eat it. Swine are not fond of it.—The *Aphis Cracca* lives upon it.

** *Flowers from the bosom of the leaves, almost sitting.*

common VIC'IA *sativa*. Shells fitting, generally 2 together, upright. Leaves dented at the end. Props marked with a spot on the under side.—

Walc.—*Riv. tetr.* 55, *Vicia*.—*Fl. dan.* 522.*—*Clus.* ii. 235. 1, repr. in *Dod.* 531. 1, *Lob. obs.* 522. 3, *ic.* ii. 75. 1, *Ger. em.* 1227. 1, cop. in *Park.* 1072. 1, and imitated in *H. ox.* ii. 4. 12. —*J. B.* ii. 310. 2.

Leaf-scales marked underneath with a spot as if it had been burnt. LINN.—*Spot* of a blackish red. HUDS.—*Leaflets* all broad, nearly inversely heart-shaped. HALL. ST.—*Stem* upright, scored. *Leaves* winged; *leaflets* about 6 pair, opposite, elliptical, blunt, the mid-rib lengthened into a projecting point. *Tendril* terminating the leaf-stalk, branched. *Leaf-scales* in pairs, spear-shaped, toothed, marked with a black shining spot. *Flowers* mostly 2 together. *Bloss.* reddish purple. Mr. WOODWARD.—*Empal.* teeth nearly equal. *Seeds* black.

Vetch. Fetch. Tare.

Dry meadows, pastures, and corn fields. A. Apr.—June.

In Gloucestershire and Worcestershire they sow it as pasturage for Horses, and eat it off early enough to allow of Turneps being sown the same year. The seeds are excellent food for Pigeons.

Horses, Cows, Sheep, and Goats eat it.

β HUDS. *Seeds* white.

γ *Leaves* narrower, somewhat strap-shaped. LINN. LEERS. Mr. WOODWARD. ST.

Riv. tetr. 54, *V. angustif.*—*Dod.* 542. 2, repr. in *Lob. obs.* 522. 3, 3. *ic.* ii. 75. 2, *Ger. em.* 1227. 4, and cop. in *Park.* 1071. 1. —*H. ox.* ii. 4. 11.—*J. B.* ii. 312.—*Matth.* 548, *shells on the leaf-stalks.*

More common than α. So nearly allied to it that there scarcely seems to be any fixed limits between them. LINN. HALL. ST.—*Leaflets* 5 and 6 pairs, those of the lower leaves egg-shaped, but still somewhat dented at the end, the mid-rib terminating in a short awn; those of the upper-leaves strap-shaped. *Tendrils* branched. *Flowers* mostly in pairs. *Shells* hairy. HALL. ST.—*Leaflets* of the lower-leaves, some always dented at the end, and when cultivated all the leaflets were dented and shorter. WILLICH.—*Stem* trailing. *Leaflets* more pointed. *Leaf-scales* marked, but less

* A small specimen. *Leaflets* few. *Flowers* solitary. Mr. WOODWARD.

less distinctly, with the burnt dots. *Flowers* mostly solitary, but of the same colours with those of α . It is clearly a variety of *V. sativa*, as it may be traced through all its stages from its smallest size up to the largest plants of *V. sativa*. Mr. WOODW.—*Stems* scored, undivided. *Tendrils* with 3 clefts. *Leaflets* of the lower-leaves heart-shaped, 2 or 3 pair; those of the upper 4 or 5 pair, strap-shaped, blunt at the end, the mid-rib lengthened out into a thorn-like point. *Empal.* the upper teeth longest, the lowermost the shortest. *Bloss.* purple. *Seeds* 10 or 12. WITH.

V. lathyroides β , and possibly α . HUDS. (Mr. WOODWARD.)
Shotover, and divers other places. RAY.

VIC'IA *lathyroides*. Shells fitting, solitary, upright, smooth. *Leaflets* 6, those of the lower-leaves inversely heart-shaped. LINN.—*Pods* mostly solitary. *Leaflets* of the lower-leaves dented, of the upper strap-spear-shaped. HUDS.*

* Under this character Mr. Hudson arranges *V. sativa* β ; *V. sylv. flore ruberrimo*, *siliqua longa nigra* R. syn. 321, and *V. lathyroides* as varieties α , β , γ ; subjoining the following observation. ST.

It varies as follows: *Leaflets* of the lower-leaves inversely heart-shaped, dented, or inversely egg-shaped; those of the upper-leaves strap-shaped and spear-shaped, 4, 6, 8, and sometimes 10. *Flowers* solitary, or in pairs. *Leaf-scales* spotted. Too nearly allied to *V. sativa*. HUDS.—View of the different varieties of *V. sativa* and *lathyroides*, considered in point of habit.

1. Leaves inversely heart-wedge-shaped.

Walc. and the other figures cited under *V. sativa* α , excepting *Fl. dan.*

2. *Leaflets* of the lower-leaves egg-elliptical, of the upper oblong-elliptical. *Flowers* solitary, or in pairs. Shells pubescent. Habit that of *V. sepium*.

Fl. dan. 522.

Vicia sativa β LINN.—*Vicia sylvestris* *sive Cracca major*. R. syn. 321.

3. *Leaflets* of the lower-leaves oblong, those of the upper strap-shaped, blunt, or dented at the end.

Dod. 542. 2, and the other references cited under *V. sativa* β , excepting those of Riv. and Matth.

4. *Leaflets* spear-shaped, tapering to a point. Habit that of a *Lathyrus*.

Riv. tetr. 54, *V. angustifolia*.—*Matth.* 548.

In a specimen which I believe to be the same plant, the *leaflets* of the lower leaves are oval-spear-shaped, and only 1 pair.

5. Structure of the leaves and habit that of *V. lathyroides*. *Flowers* solitary. Some plants not above $2\frac{1}{2}$ inches high. *Tendrils* sometimes wanting. But *leaflets* often more than 6; and shells downy.

6. *Vicia lathyroides*. The number of the *leaflets*, the smoothness of the shells, and the want of spots upon the leaf-scales, seem to be the only constant characters, but it is the careful cultivation and comparison of this with the above varieties that can alone ascertain what are varieties and what species. ST.

Fl. dan. 58.—*Riv. tetr.* 169, *V. minima*.—*Herm. par.* 242.—(*H. ox.* ii. 4. 14, a different plant, as is evident from the flowers on long fruit-stalks.—*Ger. em.* 1227. 4, is *V. sativa*. β .)

Stem a span high, upright, somewhat branched and 3-cornered. *Leaf-scales* toothed, not marked underneath with a dot. *Leaflets* of the lower-leaves very small, 6, with a sharp point at the end; those of the upper 6 or 8, very narrow, strap-shaped, smooth, dented with a point, the young ones folded together. *Leaf-stalks* of the lower-leaves very short, without tendrils; those of the upper, short, with tendrils. *Flowers* 3 times as small as those of *V. sativa*, but of the same shape and colour. *Shells* upright expanding, nearly fitting, smooth, with 8 seeds. I am inclined to suspect, from the downiness observable on the leaflets of the lower-leaves, and even on the shells, though exceedingly slight, that this delicate little plant, though differing from *V. sativa* in structure as well as habit, is merely a variety of it. *LEERS*.—Whole plant hairy, except the pods. *Root* small, fibrous, annual. *Stems* several, a foot and less, weak, trailing. *Leaflets* 4 to 6, and never more, opposite, those of the upper mostly spear-shaped. *Tendrils* never branched. *Leaf-scales* half-arrow-shaped, the upper spear-shaped, narrow, pointed. *Flowers* small, bluish purple. *Pods* upright, smooth, dotted. *Seeds* cubic. *MR. WOODWARD*.—*Tendrils* often wanting. *ST*.—*Seeds* 9. *Empal.* teeth nearly equal.

Vicia lathyroides γ *HUDS.*

Strangle Tare.—Dry pastures, gravel pits, and corn fields, in gravelly, sandy, and chalky soils. King's Park, Edinburgh. *LIGHTF. ST.* A. May. June.

yellow *VIC'IA lu'tea*. Shells sitting, bent back, hairy, solitary, with 5 seeds. Standard of the blossom smooth. *LINN.*—*Flowers* sometimes in pairs. *HUDS.*

H. ox. ii. 21. row 2. f. 2.—*J. B.* ii. 313. 1.

Leaves sometimes spear-shaped, sometimes dented. *Shells* hairy or smoothish. *Leaf-scales* alternately very entire, or with 3 teeth. *LINN.*—*Leaves* either inversely heart-shaped, dented, oblong, or spear-shaped. *HUDS.*—*Leaves* alternate; *leaflets* 3 to 5 pair, mostly alternate, oblong, blunt, and dented, or strap-spear-shaped. *Leaf-scales* spear-shaped, minute. *Tendrils* terminating, simple, or divided into 2 or 3. *Bloss.* pale yellow. *Pods* woolly. *MR. WOODWARD.*

Meadows and pastures. Glastenbury Tor-Hill. About Weymouth. A. June. July.

VIC'IA

VIC'IA hybrida. Shells fitting, bent back, hairy, *bastard* with 5 seeds. Standard of the blossom woolly.—

Jacq. hort. ii. 146.—J. B. ii. 314. 1, in fruit.—Scop. 42. at ii. p. 65.

Nearly allied to *V. lutea*. Leaflets inversely egg-shaped, dented, small, sprinkled with hairs. Leaf-scales of the stem not brown, but entirely green. Flowers yellow, greyish above, hairy. In other respects accords with *V. lutea*. LINN.

Vicia fylv. lutea cum galea fusca. J. B. hist. II. 314. (ST.)

Meadows and pastures. About Weymouth. A. June—Aug.

VIC'IA sepium. Shells on fruit-stalks, mostly in *bush* fours, upright. Leaflets egg-shaped, very entire, growing gradually smaller towards the end.—

Riv. tetr. 56, *V. sepium*.—Fl. dan. 699.—Walc.—Trag. 624.—

J. B. ii. 313. 2.—Ger. 1052. 1, cop. in em. 1227. 2.—Fuchf.

110.—Matth. 547.—Anderson.—Lonic. i. 248. 1.

Leaves doubled together. Bunches shorter than the leaves, with mostly 4 flowers. Blossoms sometimes white. LINN.—Stems upright. Leaves alternate, winged; leaflets sometimes egg-spear-shaped, opposite; mid-rib lengthened out into a projecting point. Leaf-scales half-arrow-shaped, pointed, small. Tendril branched, terminating. Flowers 3 or 4, in the bosom of the upper-leaves. Empal. segments nearly equal. Blossoms dirty purple. Mr. Woodw.—Empal. rough with hair. Flowers on very short fruit-stalks.

Woods, hedges, pastures, and meadows. P. May. [June. ST.]

Horses, Cows, Goats, Sheep, and Swine eat it.

2. Blossoms white. LINN.

Near Bungay, Suffolk. Mr. Woodward.

VIC'IA bithynica. Shells on fruit-stalks, solitary, *rough* upright. Leaflets 4, egg-spear-shaped. Leaf-scales toothed.

Jacq. hort. ii. 147.—(Buxb. cent. iii. 45. 2, has 2 flowers on a fruit-stalk.)

Gravelly corn fields and pastures, and ditch banks near Doncaster, Yorkshire. Isle of Purbeck. [Woods near Clifton upon Teme, Worcestershire. ST.]

B. July.

948. ER'VUM. Tare.

EMPAL. *Cup* with 5 divisions; nearly as long as the
blossom; *segments* narrow; tapering; nearly equal.

BLOSS. butterfly-shaped.

Standard flat; a little reflected; circular; large.

Wings blunt; half as long as the standard.

Keel shorter than the wings; tapering.

CHIVES. *Threads* 10; rising upwards; 9 united. *Tips*
simple.

POINT. *Seed-bud* oblong. *Shaft* simple; rising upwards.
Summit blunt; without a beard.

S. VESS. *Shell* oblong; blunt; cylindrical; with protu-
berances formed by the seeds.

SEEDS 4; nearly round.

ESS. CHAR. *Empal.* with 5 divisions; as long as the blossom.

OBS. It differs from *Vicia* solely in the summit. LINN.—In *E. tetraspermum* the empalement has 5 unequal teeth; and the summit, when viewed through a microscope, appears bearded, so that it ought to have been arranged with the *Vicias*. WITH.

smoothpodded ER'VUM *tetraspermum*. Fruit-stalks with mostly 2
flowers. Seeds 4, globular.—

Curt. i. 7.—Riv. tetr. 53, *Cracca minor filiquis gemell.*—Ger. 1052. 2.

—Fl. dan. 95.*—J. B. ii. 315. 2.—H. ox. ii. 4. 16.—Anderson.

Stem 2-edged, nearly 4-cornered. *Leaflets* generally 10, and
mostly alternate. *Fruit-stalks* of a hair-like fineness, with 1 or 2
flowers. *Flower* small, violet, often blood-coloured. *Shell* oval-
oblong, smooth. LINN.—*Seeds* sometimes 5. SCOP.—*Leaflets* some-
times spear-shaped, and tapering to a point. ST.—*Stem* weak,
much branched. *Leaflets* about 5 pair, strap-spear-shaped, or strap-
shaped, generally somewhat alternate. *Leaf-scales* in pairs, the
lower half-arrow-shaped, the upper frequently entire. *Tendrils*
frequently simple. *Fruit-stalks* from the bosom of the leaves, as
long as, or longer than the leaves, solitary, or in pairs. *Empal.*
somewhat hairy, the lower segments longest. *Shells* perfectly
smooth. Mr. WOODWARD. Strangle

* Leaves spear-shaped, Mr. Woodw. ST. WITH.—and downy, as Haller indeed describes them. In the Syst. veg. it is referred to *E. Lens*, but the *E. Lens* is hairy, the empal. as long or longer than the blossom, the lower-leaves without tendrils, and the shells more than twice as broad as those of *E. tetraspermum*. ST.

Strangle Tare. Tine. Tine Tare.

Corn fields, hedges, and borders of ploughed fields. A. June. Horses, Cows, Goats, and Sheep eat it.

2. Seeds 5, 6, or 7, rarely 4. Stem lower, extremely branched. These differences could not proceed from luxuriance of soil, as the spot where it grew was a remarkably dry gravel.

Near Cambridge. Mr. WOODWARD.

ER'VUM *hirsutum*. Fruit-stalks with many flowers. *rough-podded* Seeds 2, globular.

Curt. i. 8.—Dod. 542. 3, repr. in Lob. obs. 522. 2, ic. ii. 76. 1, Ger. em. 1228, and cop. in Park. 1069.—Riv. tetr. 53, Cracca minor.—J. B. ii. 315. 1.—Fl. dan. 639.

Leaflets smooth, lopped, with the mid-rib running out into a short point. *Leaf-scales* jagged. *Shells* rough. CURT.—Stems weak, much branched, angular, scored. *Leaf-scales*, the lower with 2 or 3 awl-shaped teeth, the upper awl-shaped, entire. *Leaflets* mostly strap-shaped, 8 to 12 pair, somewhat alternate, terminated by a branched tendril. *Fruit-stalks* from the bosom of the leaves, shorter but not so slender as in the *E. tetraspermum*. *Flowers* 2, 3, or 4, on very short pedicles; when 2, separate; if 3, 2 of them together; if 4, in pairs. *Empalement* hairy; segments longer and more pointed than in *E. tetraspermum*. *Pods* hairy. Mr. WOODWARD. *Plant* smooth, except the shells. *Flowers* 2 to 5. WITH.

Wild Tare. Tine Tare.

Sandy corn fields and meadows.

Horses, Cows, Goats, and Sheep eat it. LINN.

In wet seasons whole fields of corn have been over powered and wholly destroyed by it.

957. ORNI'THOPUS. Birds-foot

Rundle simple.

EMPAL. *Cup* 1 leaf; tubular; rim with 5 teeth; nearly equal; permanent.

BLOSS. butterfly-shaped.

Standard inversely heart-shaped; entire.

Wings egg-shaped; straight; hardly so large as the standard.

Keel compressed; very small.

CHIVES. *Threads* 10; 9 united. *Tips* simple.

POINT. *Seed-bud* narrow. *Shaft* bristle-shaped; ascending.

Summit a dot at the end of the shaft.

S. VESS. *Shell* awl-shaped; cylindrical; bowed; jointed; separated by transverse partitions; the joints dropping off one after another.

SEEDS solitary; roundish.

ESS. CHAR. *Shell* jointed; cylindrical; bowed.

common ORNI'THOPUS *perpusillus*. Leaves winged. Shells bowed in.—

Dod. 544, repr. in *Lob. obs.* 527. 2, *ic.* ii. 81. 2, *Ger. em.* 1241. 3, cop. in *Park.* 1092. 1, and *H. ox.* ii. 10. 13, in its more luxuriant state of growth.—*Lob. adv.* 403. 1, repr. in *ic.* ii. 94. 1, *Ger. em.* 1241. 4, and cop. in *Park.* 1092. 1, of chap. 23.—(*Fl. dan.* 730, should seem to be variety γ with the fibres of the root beset with tubercles. The branch appears to be magnified, and the entire plant of the natural size.)

Plant smooth, trailing. Leaves on leaf-stalks. Fruit-stalks as long as the leaves. Flowers 3 or 4, yellow; standard with a net-work of veins. LINN.—The whole plant hairy. REICH.—Plant downy. Flowers very small. RELHAN. ST.—Root spindle-shaped. Mr. HOLLEFEAR. ST.—Lateral fibres knotty. Shells compressed, scored, hairy. Mr. HOLLEFEAR.—Root slender, nearly as long as the stems; lateral fibres few. Stems trailing, from 1 to 6 inches high. Root-leaves numerous, prostrate, the lowermost sometimes on leaf-stalks, the rest sitting; leaflets egg-shaped, or elliptical, opposite, or alternate, from 3 to 14 pairs, with an odd one smaller. Flowers 1 to 5, terminating, opposite a leaf. Bloss. standard reddish white, with red lines. Shell slightly compressed, slightly bowed inwards. Seeds oval, yellowish. ST.—Leaflets set with very fine silvery hairs. Flowers 2 and 3 together, generally terminating. Bloss. standard very slightly notched at the end, marked

marked with crimson lines, the claw yellowish brown; *wings* white, with a reddish tinge; *keel* pale straw-colour. *Threads* and *shaft* green. *Summit* a very small knob. *Shells* with very fine silvery hairs. WITH.—*Bloss.* yellow, purple, and white.

Birds-foot.—Sandy banks, road sides, heaths, and pastures. [Near Lichfield. Mr. WHATELY.—Winson Green near Birmingham. ST.—Washwood Heath, near Birmingham. WITH.]

A. May—Aug. [to Oct. 23. ST.]

958. HIPPOCREPIS. Horse-shoe. (Ger.)

Rundle simple.

TEMPAL. *Cup* 1 leaf; with 5 teeth; the 2 upper not so deeply divided, and nearly joined; permanent.

BLOSS. butterfly-shaped.

Standard heart-shaped; with a claw as long as the cup.

Wings oblong-egg-shaped; blunt.

Keel crescent-shaped; compressed.

CHIVES. *Threads* 10; 9 united; ascending. *Tips* simple.

POINT. *Seed-bud* slender; oblong; ending in an awl-shaped *shaft*; ascending. *Summit* undivided.

S. VESS. *Shell* compressed; membranaceous; very long; crooked; deeply indented along one seam into roundish hollows, so that it appears as if composed of many 3-edged joints, connected together by the upper seam.

SEEDS oblong; crooked; 1 in each joint.

ESS. CHAR. *Shell* compressed; crooked; one of the sutures with several nicks.

OBS. The essential character of this genus consists in the *Shell* being shaped like a horse-shoe.

HIPPOCREPIS *como'sa*. Shells on fruit-stalks, tufted crowded, bowed, the outer edge serpentine.—

Jacq. fl. 431.—Riv. tetr. 97. 2, Ferrum equinum *comosum*.—Park. 1092. 4, cop. in H. ex. ii. 10. 3.—Ger. 1056. 2.—J. B. ii. 348. 1.

Stems several, ascending, a span high, smooth. *Leaf-scales* as it were running down. *Leaflets* 15, oval-strap-shaped, expanding, of a firmish texture. *Fruit-stalks* between angular and scored, longer than the leaves, from the bosom of the upper-leaves, 2 or 3. *Rundle* orbicular,

cular, with 8 flowers. *Blofs. standard* somewhat arched, scored underneath, not bent back at the edges except at the base, which is dented, whence there appears, as it were, a pore on each side. LINN.—*Stems* drooping, furrowed. *Leaflets* 4 or 5 pair, with an odd one, egg-shaped, dented, smooth. *Fruit-stalk* long, with 6 to 8 flowers. *Empalement* short, with 5 clefts. *Blofs. yellow; standard* rather long, with a long gaping claw, making a right angle with the limb; *wings* somewhat shorter, enfolded with the keel; *keel* still shorter, tapering to a point, bent at a right angle, cloven at the lower part. RELHAN.—Whole *plant* smooth. *Root* thick, woody. *Stems* much branched, trailing, 2 to 9 inches long. *Leaf-scales* in pairs, oval, blunt. *Leaflets* seldom more than 6 pair, opposite, heart-shaped, or elliptical and dented. *Flowers* 6 to 10, disposed in a circle round the summit of the fruit-stalk, after flowering bent down. *Pedicles* slightly hairy, very short. *Empalement* small; teeth short, the 2 upper distant from the lower. *Blofs. standard* oval, bent back, claw narrow at the base, and distant from the keel; *wings* with narrow claws, standing close to the keel: *keel* blunt, arched, with a double narrow claw. Mr. WOODWARD.

Tufted Horse-shoe Vetch.

Meadows and pastures in a calcareous soil. Chalky grounds about Gogmagog Hills; and between Northfleet and Gravesend; Kent, Surry, and Bedfordshire. Limestone rocks about Malham, Settle, Giggleswick, Kilnsay, and Wharf, Yorkshire. South side of Bredon Hill, Worcestershire, below the camp. NASH.—[Swaffham, Norfolk; Bungay, Suffolk. Mr. WOODWARD.]

P. LINN. RELH.—B. HUDS. May—July.

961. HEDYS'ARUM. Saintfoin.

EMPAL. Cup 1 leaf; with 5 shallow clefts; segments awl-shaped; upright; permanent.

BLOSS. butterfly-shaped; scored.

Standard reflected; compressed; egg-oblong; notched at the end; long.

Wings oblong; narrower than the other petals; straight.

Keel straight; compressed; broadest at the outer part, and almost square; cloven from the base to the broader part.

CHIVES. Threads 10; with an angular bend. Tips roundish; compressed.

POINT. Seed-bud slender; compressed; strap-shaped. Shaft awl-shaped; bent like the chives. Summit undivided.

S. VESS. Shell with roundish joints; compressed; with 2 valves and 1 seed.

SEEDS kidney-shaped; solitary.

ESS. CHAR. Bloss. keel transversely blunt. Shell with 1 seed in each joint.

OBS. In *H. Onobrychis* the shell consists of only 1 joint.

HEDYS'ARUM *Onobrychis*. Leaves winged. Shells common with 1 seed, prickly. Wings of the blossom as long as the empalement. Stem long.—

Jacq. fl. 352.—Riv. tetr. 2, *Onobrychis*.—J. B. ii. 335. 2.—Ger.

1062. 1.—Clus. ii. 232. 2, repr. in Dod. 548. 2, Lob. obs.

527. 1, ic. ii. 81. 1, Ger. em. 1243. 1, and cop. in Park.

1082. 1.—(Jacq. fl. i. 38, is *Astragalus Onobrychis*.)

Pod nearly hemispherical, compressed, with wrinkled prominences. SCOP. MR. WOODWARD.—Stems cylindrical, scored; at first trailing, but when in flower ascending. Leaf-scales in pairs, oval-spear-shaped, terminated by a long point, membranaceous at the edges, sometimes fringed with a few hairs. Leaf-stalks furrowed above, slightly hairy. Leaflets 8 to 10 pair, with an odd one, those of the lower-leaves elliptical, of the upper spear-shaped, or strap-spear-shaped, all with projecting points at the end, the uppermost with the mid-rib beneath and edges fringed. Fruit-stalks long, slightly hairy. Bunches long, closely tiled upwards. Flowers numerous. Floral-leaves awl-shaped, longer than the perianth. Empalement $\frac{1}{4}$ th the length of the blossom, hairy; teeth nearly

nearly equal. *Bloss. standard* oval, partly bent back, shorter than the keel, flesh-coloured, with red veins; *wings* not longer than the empalement, hooked near the base, pale flesh-coloured; *keel* broad, bent with an obtuse angle at the top, flesh-coloured, with a deeper red beneath. Mr. WOODW.—*Stems* cylindrical, scored. *Leaflets* strap-shaped, rounded at the ends, and terminating in a sharp point. *Empal.* segments spear-shaped, hairy, the 2 upper distant, the lowermost the shortest. *Bloss. standard* egg-shaped, with a little tooth in the notch at the end, red in the middle, with 8 or 10 deeper coloured lines, white at the edges, and mottled with red, the lines on the outside fainter, but more numerous; *wings* very small, not half the length of the empalement, spear-shaped, red and white; *keel* reddish, with deeper coloured lines. *Threads* white. *Dust* yellow. *Seed-bud* woolly at the top. *Shaft* tinged with red. *Shell* oblong, hairy. WITH.

Saintfoin. Cock's-head.

Meadows and pastures, particularly in chalky soils. [Burnham, Norfolk. Mr. CROWE.—Gogmagog Hills, near Cambridge. Mr. WOODWARD.] P. July.

This is cultivated like Clover for feeding cattle, and is particularly advantageous in dry hilly situations, and chalky soils.

965. ASTRAG'ALUS. Cocks-head.†

EMPAL. *Cup* 1 leaf; tubular; with 5 sharp teeth; the lower gradually smaller.

BLOSS. butterfly-shaped.

Standard longer than the other petals; reflected at the sides; notched at the end; blunt; straight.

Wings oblong; shorter than the standard.

Keel as long as the wings; notched at the end.

CHIVES. *Threads* 10; almost straight; 9 united. *Tips* roundish.

POINT. *Seed-bud* somewhat cylindrical. *Shaft* awl-shaped; ascending. *Summit* blunt.

S. VESS. *Shell* with 2 cells; the cells bending to one side.

SEEDS kidney-shaped.

ESS. CHAR. *Shell* with 2 cells; hunched.

† Mr. BALLARD.

* *Stems leafy; spreading.*

ASTRAG'ALUS *glycyphyllos*. *Liquorice* *Stems prostrate.* Shells nearly 3-cornered, bent like a bow. Leaflets oval, longer than the fruit-stalks. LINN.—Rather, *leaves longer than the fruit-stalks.* ST.

Riv. tetr. 103, *Astragalus*.—*Trag.* 599, in fruit.—*J. B.* ii. 330, leaflets too small.—*Clus.* ii. 233. 1, repr. in *Lob. obs.* 526. 1, ic. ii. 80. 1, *Ger. em.* 1233. 2, and abridged in *H. ox.* ii. 9. 8.

Stems much branched, smooth. Leaves alternate; leaflets usually 5 pair, with an odd one, mostly opposite, fitting, or on very short fruit-stalks, smooth, very entire. Leaf-stalks furrowed above. Fruit-stalks from the bosom of the leaves. Flowers greenish yellow, numerous, in a close bunch, on short pedicles. Leaf-scales awl-shaped, 1 at the base of each pedicle. Empalement with 5 divisions; segments awl-shaped, the 2 upper shortest, the lower longest. Mr. WOODW.—Shell, partition approaching near to the lower suture, but not joining to it. ST.—Leaves longer than the fruit-stalks; leaflets rather pointed, slightly hairy underneath. Floral-leaves very slender, as long as the empalement. Dust orange-coloured. WIRN.

Wild Liquorice. Liquorice Vetch.

Meadows, pastures, and ditch banks, especially in a calcareous soil. About Charleton, Kent. [In the ditch of Northampton Castle. Mr. WOOD.—Near Difs, Norf. and Huntingdon. Mr. WOODWARD.]

P. June. July.

Horses, Cows, Goats, and Sheep eat it. Swine refuse it.

ASTRAG'ALUS *danicus*. Hairy. Stem drooping. *purple* Heads on long fruit-stalks. Shells short, inflated, hairy. RETZ.? ST.*—Heads tiled. ST.†—*Leaves sometimes without hairs.* HUDS.

Ray 12. 3. at p. 326, in fruit.—*Fl. dan.* 614.

Flowers sometimes white. Shells oval, upright, woolly. HUDS.—Leaflets small. Shells short, hairy. RAY.—Whole plant hairy and green, not cottony and white as A. arenarius. Root with small branches.

* From a specimen of the *A. arenarius* of the English botanists, sent me by Mr. Dryander, I find it to be very different from the *A. arenarius* of LINNÆUS. It is very like my *A. danicus*, but yet it seems different. I suspect it to be perennial, and that the shells are longer. RETZ. *obs.* iii. n. 85.—But unable to discover any essential marks of distinction between our specimens and his description, it has been thought more advisable to insert it under the title of *A. danicus*, with a mark of doubt, than to incur the danger of giving a new name and character to a plant already distinguished by an experienced botanist. ST.

† *Capitulis imbricatis.* ST.

branches. *Stem* angular. *Leaf-scales* solitary, opposite the leaves, embracing the stem, cloyen, whitish and membranaceous at the base, with green points. *Leaves* alternate; *leaflets* mostly 21, egg-shaped or spear-shaped, flat. *Fruit-stalk* generally 1 on a plant. *Flowers* upright, on very short pedicles, from 7 to 12. *Floral-leaves* spear-shaped, with black hairs, 1 at the base of each flower. *Empal.* greenish, with black hairs; teeth much longer than those of *A. arenarius*. RETZ. ST.—The whole plant hairy. *Stems* drooping. *Leaves* winged, with an odd one, pairs 7 to 12. *Fruit-stalks* long, with 5 to 7 flowers. *Flowers* in proportion to the size of the plant rather large, beautiful. *Floral-leaves* egg-shaped. *Empal.* cylindrical, with 5 clefts. *Bloss.* of a pleasant purple; *wings* of a moderate length; *keel* rather short, undivided. RELH. ST.—*Root* perennial. *Stems* weak, as many as 6 or upwards, towards the base lying close to the ground, the heads of flowers rise up at some distance from the root, as if without any leaves or stems belonging to them. *Leaflets* 6 to 12 pair, with an odd one, elliptical, or spear-shaped, hairy, especially on the upper side, opposite. *Leaf-stalks* hairy, furrowed. *Leaf-scales* egg-spear-shaped, sitting, in pairs, fringed. *Fruit-stalks* mostly from near the ends of the branches, ascending, larger than the leaf-stalks, about as long as the leaves, hairy, hairs white towards the base, black above. *Flowers* 5 or 6, rarely more, in a close head, on short pedicles. *Floral-leaves* oval-spear-shaped, 1 to each pedicle. *Empalement* beset with black hairs; teeth short, nearly equal. *Bloss.* bluish purple, sometimes white. *Shells* short, covered with white hairs. MR. WOODWARD.—*Stems* 2 to 5 inches long, thickening upwards; hairs laid to, white, with a few black ones interspersed. *Fruit-stalks* thicker and often longer than the stem, furrowed, in the more luxuriant specimens from the bottom of the middle leaves, sometimes 2 on a stem; hairs laid to. *Leaflets* slightly rolled inwards at the edge. *Seed-bud* woolly, with white, close, straight hairs. *Empal.* teeth 1-3rd of the length of the tube. ST.

Astragalus arenarius. HUDS. Bot. Arrang. ed. i. LIGHTF. RELH.—(*A. arenarius* of Linnæus is a quite different plant. RETZ.*)

Sandy and chalky meadows and pastures. Gogmagog Hills, Newmarket and Royston Heaths. About Haslewood, Yorkshire: Pigburn Fields, near Doncaster. Hills in the King's Park, Edinburgh; sands of Musselburgh; Hill of Moncrief near Perth; and York Cascade, at the Duke of Athol's seat at Blair. [Side of Bredon

* I have a specimen in my possession of English growth which I am inclined to believe to be the true *A. arenarius*. If it prove to be so it will be noticed in an appendix.

Bredon Hill, Worcestershire, near the camp. NASH.—[About Thorp-Arch, Yorksh. Mr. WOOD.—Swaffham Heath, Norfolk. —Hills near Dunstable. Mr. WOODWARD.] P. May—July.

** *Stalk bare, without a leafy stem.*

ASTRAG'ALUS *uralen'sis*. Stemless. Stalk upright, *hairy* longer than the leaves. Shells awl-shaped, inflated, woolly, upright.—

Lightf. 17. at p. 401.—*Hall. it. helv.* 2. 1, in *opusc.* at p. 308, *cop. in stirp.* 5. 3, at p. 155, and *hist.* 14. 3. at i. p. 195.

Leaves winged; *leaflets* 23 to 33, egg-shaped, pointed, sitting, sprinkled with small whitish hairs. *Leaf-stalks* with 3 imperfect angles. *Stalks* twice as long as the leaves, cylindrical, hollow, somewhat scored, roughish. *Spike* short, rather oblong. *Flowers* sitting. *Floral-leaves* spear-shaped, shorter than the empalement. *Empalement* egg-shaped, inflated; teeth short. *Bloss.* purple, or violet blue. *Shell* longer than the empalement, somewhat hairy. LINN.—Whole plant, the blossoms excepted, covered with white soft hairs. *Leaf-stalk* furrounded at the base with spear-shaped withered scales. *Leaflets* oval, oval-spear-shaped, and spear-shaped, with an odd one. *Fruit-stalks* much thicker than the leaf-stalks, but little longer than the leaves. *Flowers* 8 or 10, crowded. *Floral-leaves*, the lowest longer, the rest shorter than the empalement. *Empal.* teeth nearly equal. Mr. WOODWARD.

Mountainous and alpine pastures in Scotland. Cromarty, and at the bay of Farr. Mr. ROBERTSON.—On Carn-dearg, one of the lower heads of Ben Squivlert id Glen-cream in upper Lorn, in a light sandy soil. Mr. STUART. P. July

968. TRIFO'LIUM. Trefoil.

Flowers in a little *Rundle* or *Head*, upon a common receptacle.

EMPAL. *Cup* 1 leaf; tubular; with 5 teeth; permanent.

BLOSS. butterfly-shaped; generally permanent; shrivelling.

Standard reflected.

Wings shorter than the standard.

Keel shorter than the wings.

CHIVES. *Threads* 10; 9 united. *Tips* simple.

POINT. *Seed-bud* somewhat egg-shaped. *Shaft* awl-shaped; ascending. *Summit* simple.

S. VESS. *Shell* short; with 1 valve; not opening; deciduous.

SEEDS very few; roundish.

ESS. CHAR. *Flowers* mostly in heads. *Shell* scarcely longer than the *empalement*.; not opening, but falling off.

Obs. It is, perhaps, more difficult to give a true and essential character to this genus, than to any other that I know, notwithstanding the general habit, which is at once perceived, and the properties of the plants which compose it shew that it is a natural one; and those who have attempted to divide it, have not been able to fix any certain limits to their sub-divisions.

* MELILOTS. *Shells* naked, containing several seeds.

Melilot

TRIFO'LIUM *Melilotus officinalis*. *Shells* in bunches, naked, with 2 seeds; wrinkled, pointed. Stem upright.

Gmel. iv. 7.—Sheldr. 72, Common Melilot—Ludw. 113—Dod. 567. 2, rep. in Lob. obs. 501. 2, ic. ii. 43. 2, Ger. em. 1205. 4, and cop. in Park. 719. 1. 2.—Ger. 1034. 3.—Riv. tetr. 6, Melilotus.—Blackw. 80.—Matth. 1162.—Trag. 591.—H. ox. ii. 16. rorw 2. 2.—Fuchf. 749, cop. in J. B. ii. 370.—Ger. 1034. 4.—Lonic. i. 106. 1.

Leaflets of the lower-leaves oblong-wedge-shaped, those of the upper, elliptical, sharply serrated-toothed. *Leaf-scales*, the lower with 3 or 4 awl-shaped teeth; the upper spear-shaped, entire. *Bunches* long. *Flowers* bent back, scattered. *Pedicles* short, hairy. *Floral-leaves* awl-shaped, small, 1 at the base of each pedicle. *Empalement* 1-3rd the length of the blossom, clefts extending half way down, segments nearly equal. Mr. Woodw.—*Bloss.* yellow.

Common Melilot. King's-Claver. Hart's Claver, in Yorkshire.

Corn

Corn fields, meadows, and ditch banks, in stiff soil.

A. LINN. RELH.—B. HUDS. June. July.

This is more fragrant when dry than when green. A water distilled from the flowers possesses but little odour in itself, but improves the flavour of other substances.—Horses are extremely fond of it. Cows, Goats, Sheep, and Swine eat it.

TRIFO'LIUM *Melilotus ornithopodioides*. Shells naked, *Birds-foot* mostly in threes, with 8 feeds, twice as long as the em-
palement.* Stems declining.—

Curt. ii. 21.—Fl. dan. 368, a luxuriant plant, such as it is in gardens.

—Ray 14. 1. at p. 332, leaflets rounded instead of dented at the end, which Dill. assures us is sometimes the case.—Pluk. 68. 1.†

Bunches egg-shaped. An intermediate plant between *Trifolium* and *Trigonella*. LINN.—Stems prostrate, 2 to 5 inches long, disposed in a circular manner round the root. Leaflets 3, sitting, mostly inversely heart-shaped, sharply and distantly serrated. Leaf-stalks long, slender. Leaf-scales spear-shaped, sharply pointed, large, in pairs at the base of the leaf-stalks. Fruit-stalks from the bosom of the leaves, much shorter than the leaf-stalks. Flowers from 1 to 4, but usually 2 on a fruit-stalk, parallel to each other. Empalement more than half the length of the blossom, pale green, with deeper lines; cloven half way down; segments nearly equal, awl-shaped. Bloss. pale red. Shells short, thick, terminated by a short point turned downwards, which gives them something of the appearance of a bird's claw. Mr. WOODWARD.

Fine short dry sandy pastures and meadows, and amongst corn. Half a mile from Tadcaster towards Sherborn. Near Oxford. Tottlesbury, Essex, on sandy banks by the sea side. Tothil Fields, Westminster. Black-heath, near London. About Marazion and Penzance, Cornwall. Maitland Bridge, between Musselburgh and Edinburgh. [Moushold Heath, near Norwich. Mr. PITCHF.]

A. June. July.

** Shells covered, containing several seeds.

TRIFO'LIUM *hybridum*. Heads like rundles. *bastard*
Shells with 4 feeds. Stem ascending.—

* In the last edition of the *syss. nat.* and the 2 last of the *syss. veg.* it is erroneously printed *subternis*, *calyc. duplo longioribus*, an error which is also copied at full length in the *Fl. lond.* ST.

† Leaves well represented, Mr. WOODWARD.

Michel. 25. 6 and 2.*—Vaill. 22. 5.—Riv. 17. 2, *Trifolium fl. albo.*

Stem ascending, branched, furrowed; about a foot high. Props spear-shaped, sharp, terminating in a hair. Little-leaves egg-shaped, sharp, between ferrated and toothed. Fruit-stalks not very long, but jointed. Receptacle egg-shaped, concave. Chaff spear-shaped, narrow, very sharp. Bloss. gaping. It is very probable that this plant was at first produced by the dust of *T. pratense*, fertilising the seed-bud of *T. repens*. LINN.

Trifolium repens hybridum. HUDS.

Moist pastures near Peckham and Battersea. HUDS.

P. May—Sept.

white TRIFO'L IUM *re'pens*. Heads like rundles. Shells with 4 seeds. Stem creeping.—

Curt. iii. 33.—Michel. 25. 3 and 4.—Riv. tetr. 17. 2, *Trifolium repens*.—Vaill. 22. 1, to be viewed sideways. Leaflets too pointed. —Dod. 565, repr. in Lob. obs. 493. 2, ic. ii. 29. 1, Ger. em. 1185. 1, and cop. in Park. 1110. 1, and not *T. pratense*, as is evident from the naked spikes on fruit-stalks as long as the leaf-stalks, &c.—J. B. ii. 380. 3.—H. ox. ii. 12. row 1. 2. (ib. 14. row 1. 4, and Michel. 25. 5, seem dubious.)

Stem undivided, cylindrical, a span long. Leaf-scales circular, blunt, mostly sharp-pointed. Leaflets circular, very blunt. Fruit-stalks very long. Receptacle strap-shaped, solid. Chaff egg-shaped, oblong, blunt. Bloss. parallel. In the above respects it differs from the *T. hybridum*. LINN.—Leaf-scales in pairs, oval-spear-shaped, lengthened out into an awn. Leaflets varying in shape, but generally oval and blunt, sharply ferrated, with a strong midrib, and numerous branching ribs terminating in the ferratures. Leaf-stalks and fruit-stalks long, upright, rising nearly at right angles from the stem. Flowers in a close head, upright, when shrivelling bent downwards. Pedicles short. Flower-scales small, awl-shaped, 1 to each pedicle. Empal. teeth nearly equal, the 2 upper rather longest, reddish. Bloss. white; standard oval. Mr. Woodw. —Flowers in a globular bunch. Spike-stalk shorter than the flowers. Empalement keeled above, white, teeth and keel green. ST.—Leaflets inversely heart-shaped, and egg-shaped. Empalement greenish white, with purple streaks. WITH.

Trifolium pratense flore albo minus, et foemina glabrum. J. B. hist. 380.—(*Trifolium pratense album.* C. B. pin. 327, referred to both by Linnæus and Ray, appears from the figures of Fuchf. Clusf. and Matth. there cited, and from the descriptions of Clusf. and Thal.

* It is described, however, as having only 2 seeds in a shell. ST.

Thal. to be *T. montanum*. The figures of the *T. repens* are found in *C. B. fin.* intermixed with those of *T. purpureum*.) ST.

Dutch Clover.—Meadows and pastures. P. May—Sept.

Horses, Cows, and Goats eat it. Sheep are not fond of it. Swine refuse it.

The leaves stand upright against rain. LINN.—Wherever this plant abounds spontaneously, it is always considered as an indication of the goodness of the soil; and this is a thing well known to farmers. The richness of meadows and pastures is naturally owing to their abounding principally with the Trefoils, and others of the same class, with a due mixture of the more acceptable grasses. PULTENEY'S view.

2. Leaves of a deep purple. CURT. ST.

3. Small heads of leaves growing out of the flowers. CURT. ST.

Canal between Limehouse and Bromley. CURT.—[Worcestershire. ST.]

Bloodwort
proliferous

*** *Cups woolly*.

TRIFO'LIUM *subterra'neum*. Heads woolly, with 5 *subterraneous* flowers, with a tuft proceeding from the extremity of the fruit-stalk, which is stiff, and being bent back incloses the fruit.—

Curt. ii. 22, ripe fruit not figured.—Riv. tetr. 17. 2, *Trifolium subterraneum*, fruit well figured.—Ray 13. 2, fruit ill represented.

—Barr. 881.—H. ox. ii. 14. row 1. 5, ill done.

Fruit a globular head, which when the flowering is over makes its way into the ground. The fruit-stalk supports an upright head consisting of 5 flowers, disposed in manner of a rundle. These, as soon as they have lost their blossoms, are bent back upon the fruit-stalk, the point of which bores into the ground. Near the point of the fruit-stalk rise 5 scales which grow up, are bent back, become elongated, and inclose the empalements in a lattice-work globe. LINN.—The white filaments, which are put forth from the extremities of the fruit-stalks, resemble roots, but they do not penetrate the earth, as supposed by Dillenius, but rise upwards, their ends expanding into little star-like points, and finally inclose the seed-vessels in a kind of prickly head. CURT.—Stems numerous, prostrate, disposed in a circle round the root. Leaf-scales in pairs, oval-spear-shaped. Leaf-stalks long, downy. Leaflets sitting, inversely heart-shaped, blunt, obscurely ferrated, downy, especially underneath. Fruit-stalks from the bosom of the leaves, the lower shorter, the upper as long as the leaves, with 3 or 4 flowers. Floral-leaves none. Empalements cylindrical, cloven half way down; segments nearly equal, bristle-shaped, fringed with

soft hairs. *Bloss.* white; standard oval, claw long and narrow. Mr. WOODWARD.—From the absence of floral-leaves, the tuft proceeding from the point of the fruit-stalk should seem to be intended as a substitute for them. ST.

Barren heaths and pastures in sandy or gravelly soil. About London, frequent. Gamlingay by the wind mills, and near Whitewood, Cambridgeshire. Between Eltham and Deptford, Kent. [Bath Hills, near Bungay, Suffolk. Mr. WOODWARD.]

A. May—Aug.

Honey-suckle TRIFO'LIUM *pratense*. Spikes nearly globular, somewhat woolly, inclosed by opposite membranaceous leaf-scales. Blossoms of 1 petal. LINN.—Empalements woolly. Wings of the blossom shorter than the standard. Leaf-scales awned. ST.*

Fuchs. 817, cop. in *Trag.* 536, and *J. B.* ii. 374.—*Ger.* 1017. 1.

—*Math.* 835.—*Riv. tetr.* 11. 1, *Trifolium*.—*Blackw.* 20. a. b.

—*Louic.* i. 104. 4.—(*Dod.* 565, repr. in *Lob. obs.* 493. 2, ic.

ii. 29. 1, *Ger. em.* 1185. 1, and cop. in *Park.* 1110. 1, is *T. repens*;† and in *H. ox.* ii. 12. 6, the spikes are naked on long fruit-stalks.)

Spike single, sitting between 2 opposite sitting leaves, the leaf-scales of which are somewhat egg-shaped, dilated, membranaceous, skinny, with red veins, and form a kind of common empalement. Empalement of the fruit with 5 awns or bristles, the 4 uppermost very much expanding, but the 5th and lowermost upright. LINN.—Leaflets hairy on both sides, those of the lower-leaves roundish-egg-shaped, those of the upper more pointed. Leaf-scales terminated by hair-like awns. HALL. LIGHT. ST.—Leaflets somewhat downy on both sides. POLLICH. ST.—When in a wild state a much lower and smaller plant than the *T. flexuosum*. Flowers upright, when out of blossom hanging down. Leaflets of the lower-leaves roundish, those of the upper oval, slightly downy, dark blackish green, with a whitish angular mark in the centre. Leaf-scales, the upper oval, terminated by an awn, scored with red veins, slightly woolly. Head single, usually roundish and sitting, between a pair of nearly sitting leaves, and in part surrounded by their leaf-scales, smaller, and of a deeper purple than those of *T. flexuosum*. Empalement short, slightly woolly, generally scored with red veins; teeth bristle-shaped, woolly, usually tinged with purple. Bloss. of 1 petal; tube long; standard usually

* Calyce villosa, alis corollæ vexillo brevioribus, stipulis aristatis. ST.

† Crantz remarked that the flowers were not seated on the leaves. ST.

usually longer than the wings and keel, blunt, generally notched at the end; wings blunt. *Bloss.* reddish purple, sometime white. *ST.* *Purple Trefoil.*

Meadows and pastures.

B. May—Sept.

In a great scarcity of provisions bread has been made of the flowers. The heads are used in Sweden to dye woollen green. With alum they give a light, with copperas a dark green.

β HUDS. LIGHTF.—Leaves inversely heart-shaped, the upper heart-leaved generally opposite. Spike bare. RAY.

Ray 13. 1. at p. 328.

T. prat. purp. foliis in extremo sinuatis. C. B. pin. 327. (ST.)

Between Peckham and Camberwell. HUDS.

γ HUDS. Larger and more upright than α . Leaves somewhat paler and thinner. Flowers somewhat paler. Does not propagate itself by seed, or continue so long in the ground. RAY.—Stems strong, almost smooth, furrowed, twice as tall as those of α . Heads large, oval, hairy. Petals more expanding, and shafts shorter than those of α . MILL.—Differs from α in nothing but size. Mr. WOODWARD. ST.—*Empal.* segments tipped with a fine purple. Seed-vessel containing 2 seeds. WITH.

Cow-Clover. Clover-grass. Honey-suckle Trefoil.

Meadows and pastures.

Much cultivated. It is either grazed, or made into hay.

Swine, Goats, Horses, and Cows are fond of it. LINN.—Seldom remains in the ground more than 2 years. Mr. WOODWARD.

TRIFO'LIUM *flexuosum*. JACQ. ST.—Spikes round- *long-leaved*
ish. Teeth of the empalement hairy. Wings of the
blossom as long as the standard. Leaf-scales awl-shaped.
Stem zigzag. ST.*

Jacq. fl. iv. 386.—Clus. ii. 245. 2, repr. in Ger. em. 1186. 4, cop. in Park. 1104. 1, and J. B. 375. 2.—Park. 1104. 2.—Fl. dan. 662, though the body of the empalement is represented as downy. The parts of fructification ill done.—Blackw. 20. c. g.

Root cylindrical, slender, branching, tough, very long, brown, perennial, above with many heads, and somewhat shrubby. Stems several, simple, scored, cylindrical, or slightly compressed, $\frac{1}{2}$ to 1 foot high, zigzag at almost all the joints, ascending, and but seldom truly upright, with a slight hairiness, and sometimes almost smooth. Leaf-scales with a slight hairiness, especially at the edges,

* *Spicis subrotundis, dentibus calycinis pilosis, corollæ alis vexillum æquantibus, stipulis subulatis, caule flexuoso.* ST.

sometimes nearly smooth, spear-shaped, tapering both ways, approaching, scored, scarcely embracing the stem, with reddish lines below. *Leaf-stalks* cylindrical. *Leaves*, the 2 uppermost sitting; *leaflets* spear-shaped, with minute serratures not visible to the naked eye, but perceptible to the finger passed downwards, often marked with indistinct white blotches, with a slight hairiness on both sides, and especially at the edge, sometimes nearly smooth; those of the lower-leaves blunt and nicked at the end; those of the rest rather pointed. *Spike* roundish, pleasing to the eye and smell, nearly sitting, generally single, sometimes 2, slightly woolly. *Empal.* smooth, with 10 scores; teeth green, beset with scattered hairs, the lowermost equal in length to the tube of the blossom, the rest gradually shorter. JACQ. (ST. with the exceptions noted below).—*Leaves* longer and narrower, and *blossoms* of a deeper colour than those of the cultivated *Clover*. RAY.—Differs from *T. pratense* as follows: *Leaves* longer, more strongly ribbed, smooth above. *Leaf-scales* spear-shaped, green, not awned. *Empalement* smooth, only the teeth hairy. *Spike* thicker. HALL. LIGHTF. ST.—Both in this and the *T. pratense* the *empalement* is sometimes woolly, and sometimes smooth; the *ribs of the leaf-scales* sometimes red, and sometimes uncoloured; and the *leaflets* very entire or finely serrated. LEERS.—*Leaves* blunt, smooth above, downy underneath. *Empal.* teeth awl-shaped, the lowermost somewhat longer than the rest. POLLICH. ST.—*Flowers* upright, when out of blossom hanging down.—*Leaflets* larger and of a paler green than those of *T. flexuosum*, all elliptical or spear-shaped, with frequently a white mark. *Leaf-scales* spear-shaped, tapering to the end, pale at the base, scored with deep green veins, and fringed with long soft hairs. *Heads* oval, usually 2, and on fruit-stalks. *Fruit-stalks* from the bosom of the upper pair of leaves, unequal. *Empalement* short, smooth; teeth unequal, bristle-shaped, usually green, and fringed with long soft hairs. *Bloss.* of 1 petal; standard nearly equal to the wings and keel, broader than in *T. pratense*, but terminating in a point; wings pointed. MR. WOODWARD.—*Stems* tough. *Leaf-scales* awl-shaped, not tapering downwards, or awned, smooth, except at the edges, which are fringed with longish soft hairs, the uppermost often broader and rather triangular-awl-shaped. *Leaves*, the upper sometimes on leaf-stalks, sometimes sitting; *leaflets* egg-elliptical, spear-shaped-oblong, or spear-shaped, smooth above in all the plants and specimens which I have seen, beset at the edges and underneath with soft short hairs lying flat, thicker and tougher than those of *T. pratense*.

Trifolium medium. HUDS. ed. I.—*Trifolium alpestre*. Bot. arr. ed. I. HUDS. ed. II. LIGHTF. and RELHAN.—*Trifolium majus tertium*.

CLUS.

CLUS. hist. II. 245.—(Jacq. obs. 64, and Riv. tetr. 12. 1, *T. fol. longo*, fl. purp. cited by Mr. Lightfoot, but very properly omitted by Mr. Hudson, are *T. alpestre*. My reasons for believing our plant not to be the *T. alpestre*, and that the *alpestre* of Jacquin and Linnæus are the same, are the following: The only figure cited by Linnæus is Jacq. obs. t. 64. The character of leaves finely serrated is true of Jacquin's plant, whereas, in our plant, the serratures are invisible to the naked eye. Linnæus also says, that the foliage of the *alpestre* is that of the *montanum*. This holds true of Jacquin's *alpestre*, but not of the *flexuosum*, whose foliage most nearly resembles that of *T. pratense*. The body of the empalement in Jacquin's *alpestre* is woolly, as described by him. In the *flexuosum* it is smooth. The *T. alpestre* has the habit of *T. Lupinaster*.) ST.

Long-leaved purple Trefoil with deeper coloured flowers. RAY.—Perennial Clover. Marle-grass. HUDS.

Pastures and sides of hedges. RAY. ST.—Sides of woods. JACQ. ST.—Mountainous pastures. JACQ. HUDS.—At the foot of the Highland mountains in moist and shady places. LIGHTF.—In Skirritth and other mountainous woods and pastures in the North, most plentifully. CURT.—[High pastures, usually among bushes, and in woods and ditch banks. Bath Hills, near Bungay, Suff. Mr. WOODWARD.] P. July.

TRIFO'LIUM *ochroleu'cum*. Spikes woolly. Stem *brimstone* upright, downy. Leaflets of the lowermost leaves inversely heart-shaped. LINN.—Spikes globular. Blossoms of 1 petal. Lowermost tooth of the empalement very long, straight. Stem somewhat declining. Leaves woolly. HUDS.—Spikes sometimes egg-shaped or oblong. Lowermost tooth of the empalement as long again as the rest. ST.

Jacq. fl. 40.—H. ox. ii. 12. 12, but leaves pointed instead of rounded at the ends.—The figures of *T. montanum* in Clus. ii. 245. 1, repr. in Ger. em. 1185. 3, and cop. in J. B. ii. 380. 2, in Fuchf. 818, or Matth. 836, are better representations of it, with the exception, that the upper leaves are not in pairs.—(Ray 13. 1, is cited as a variety by Haller, having the upper-leaves opposite, but Mr. Hudson regards it as a variety of *T. pratense*, variety β , which see. The structure of the empalement would readily ascertain whether it belongs to either, or to which of these species.)

Upper-leaves narrow, very entire. Spikes on fruit-stalks, oblong. Empal. the lowermost tooth the longest. Bloss. brimstone-coloured. LINN.—Spikes very much resembling those of *T. pratense*. RAY. ST.—In appearance resembles *T. pratense*, but the stem more hairy, and

and the *leaf-scales* sheathing to a greater extent, and running out into longer awns. GOUAN. ST.—*Leaves*, the uppermost pair opposite, and their *leaflets* very entire. HALL. ST.—*Leaves* alternate; *leaflets* sitting, the lower ones heart-shaped and egg-shaped in the same plant. *Leaf-scales* in pairs, spear-shaped, ending in a long awn, scored, and fringed. *Empal.* short, scored; teeth fringed, the lowermost expanding, green, the rest short, equal, tipped with purple, and sometimes entirely purple. *Bloss.* pale brimstone-coloured; *standard* very long, spear-shaped, somewhat keeled; *wings* and *keel* equal. MR. WOODW.—*Empal.* teeth bristle-shaped, within smooth and marked with an elevated ridge, the 4 upper generally shorter, but sometimes as long as the body of the empal. the lowermost tooth sometimes as long again as the body of the empal. ST.

Dry meadows and pastures, and thickets, in a chalky soil in Essex, Cambridgeshire, Bedfordshire, Hertfordshire, Dupper's Hill, Croydon, and near Stamford. [Bath Hills, near Bungay, Suffolk. MR. WOODWARD.] B. June. July.

Hares-foot TRIFO'LIUM *arven'se*. Spikes woolly, oval. Teeth of the empalement bristle-shaped, woolly, equal.—

Dod. 577. 1, repr. in Lob. obs. 498. 4, ic. ii. 39. 1, Ger. em. 1193. 3, and cop. in Park. 1107. 6, and H. ox. ii. 13. 8.—Fl. dan. 724.—Riv. tetr. 15, Lagopus.—Ger. 1023. 2.—Barr. 901 and 902.—Matth. 983.—Fuchs. 494, cop. in Trag. 595, and Lonic. i. 106. 5.—Blackw. 450.

Bloss. wings marked within with a blood-coloured spot. LINN.—*Bloss.* pale red, shorter than the empal. Whole plant woolly. Stem upright, cylindrical, firm, much branched. *Leaf-scales* in pairs, spear-shaped, scored with red veins, and ending in an awn. *Leaf-stalks* very short. *Leaflets* of the lower-leaves elliptical, of the upper nearly strap-shaped, somewhat nicked at the end, the mid-rib lengthened into a short point. *Empalement* reddish, longer than the blossom, scored; teeth bristle-shaped, nearly equal, fringed with long hairs. MR. WOODWARD.—*Bloss.* pale red.

Hares-foot. *Hares-foot Trefoil.*

Sandy pastures and corn fields.

A. July. Aug.

β

Ray 14. 2. at p. 332.

Root running deep. Stems trailing, 1 to 3 inches long. *Fruit-stalks* very short. *Heads* numerous, roundish. *Blossoms* white or pale flesh-coloured. DILL. in R. syn.—Stems trailing. *Leaflets* rather elliptical, blunter than in α, and by no means so pointed as in Dillenius's figure. *Leaf-scales* more woolly than in α. *Heads* nearly round, not so large as in the figure. MR. WOODWARD.

Sea coast. Brackelsham, Suffex. [Yarmouth Denes. Lowestoft, plentifully. Mr. WOODWARD.]

TRIFO'LIUM *stella'tum*. Spikes hairy, egg-shaped. *star-headed* Empalements expanding. Stem spreading. Leaflets inversely heart-shaped. LINN.—Spikes globular. Teeth of the empalement equal. Stem oblique, woolly. Leaves woolly, the lower ones inversely heart-shaped. HUDS.*

J. B. ii. 376. 2, cop. in H. ox. ii. 13. 9.—Barr. 860, and 755.

—Pluk. 113. 4. †

Empalement hairy on the outside, teeth equal. LINN.—Stem woolly, with a few hairs. Leaf-scales in pairs, spear-shaped, lengthened out, scored, fringed with long hairs. Leaves, the upper opposite; leaflets of the lower-leaves oblong-wedge-shaped, of the upper oblong-wedge-spear-shaped. Leaf-stalks short. Fruit-stalks longer than the leaf-stalks. Heads oval. Empalement as long as the blossom; divided almost to the base; segments spear-awl-shaped, fringed with long hairs. Blofs. pale reddish purple; standard spear-shaped, keeled; wings hooked very near the base; keel as long as the wings. Mr. WOODWARD.—Leaflets of the upper-leaves oblong, slightly wedge-shaped at the base, rounded at the end, and sometimes very slightly dented, smooth, except at the edges and along the mid-rib underneath. Empalement beset at the base of the teeth with white expanding hairs. Sr.

Meadows and pastures on the sea coast. Dartford Saltmarsh. Leigh and Little Holland, Essex. In Somersetshire. Tilbury Fort. Sheerness. Between Greenhithe and Northfleet. Near Bristol. [In Norfolk. Mr. PITCHFORD.] P. June. July.

TRIFO'LIUM *sca'brum*. Heads sitting, lateral, *hard-knotted* egg-shaped. Segments of the empalement unequal, stiff, bowed back.—

Barr. 870, in fruit.—Vaill. 33. 1, in flower.—J. B. ii. 378. 4, in fruit.—H. ox. ii. 13. 10.

Stems not much branched. Leaflets oval, thickish, somewhat scolloped at the edge. Heads from the bosom of the leaves, hard, stiff, permanent. Empal. the outer teeth longer and stronger. Blofs.

* Or rather perhaps, *spicis pilosis, dentibus calycinis lanceolatis aequalibus, patentibus, caule diffuso, foliis superioribus oppositis, foliolis infimis obcordatis*.—*Spicis pilosis* as in Sp. pl. rather than *pilosis ovalis*, as Scop. describes them *oblong* as they are in Barr. 755. one of the figures cited by Linnæus; and Hudson *globular*.—*Caule foliisque villosis* in Mr. Hudson's characters of this species and *T. cecroleucum* seem superfluous. Sr.

Bloss. whitish, slender, as long as the empalement. LINN.—Whole plant woolly. Stems prostrate, 4 to 7 inches long. Leaf-scales oval-spear-shaped, terminated by an awn, scored with red lines. Leaf-stalks short. Leaves few; leaflets oblong-wedge-shaped, fitting. Heads somewhat oval. Empalement scored, hairy; teeth triangular, the lowermost long, expanding, sharp, and giving the plant its roughness to the touch. Bloss. but little longer than the empalement, whitish. Mr. WOODWARD.

Chalky and sandy pastures. Chalk hills near the Thames between Northfleet and Gravesend. Near Chatham, and in the Isle of Shepey. Newmarket; Gamlingay, Cambridgeshire. [Bath Hills, near Bungay, Suffolk. Mr. WOODW.—Caister Common, near Norwich. Mr. CROWE.] A. May. June.

round-headed TRIFO'LIUM *glomeratum*. Heads fitting, hemispherical, stiff. Empalements scored; teeth open,* equal.—

Curt. iv. 38.—Barr. 882.—Fluk. 113. 5.

Stem drooping. Empalements with 10 scores, naked, disposed in a beautiful manner, the stiff expanding segments filling up the interstices between the rest. LINN.—Stems numerous, prostrate, 4 to 7 inches long, scarce perceptibly downy. Leaf-scales in pairs, oval-spear-shaped, taper-pointed, scored, smooth. Leaf-stalks furrowed above. Leaves alternate; leaflets nearly fitting, obtusely oval, or oblong-wedge-shaped, smooth on both sides, strongly ribbed, the ribs terminating in pointed serratures scarcely distinguishable by the naked eye, in the youngest leaves only the mid-rib lengthened into a projecting point. Heads from the bosom of the leaves and terminating, with a pair of leaf-scales similar to but broader than those beneath. Empalement smooth, shorter than the blossom; teeth expanding, triangular, pointed but not rigid at the end. Bloss. pale red; standard spear-shaped, somewhat keeled; wings and keel equal. Mr. WOODWARD.

Sandy meadows and pastures, and moist heaths. Saxmundham, Suffolk. Blackheath and Greenhithe, Kent. Isle of Shepey, and about Norwich. [Bath Hills, near Bungay, Suffolk. Mr. WOODWARD.] A. June.

soft-knotted TRIFO'LIUM *striatum*. Heads fitting, mostly lateral, egg-shaped. Empalements scored, rounded.†—

* Rather expanding (patentes) as in the description., Sr.

† The teeth are pointed, and open (patuli.) It should seem, therefore, that *rotundatis* is here applied to the whole or lower part of the empalement as approaching to a round figure, Sr.

Vaill. 33. 2.*—Ray 13. 3.

Empalement with 10 scores, hairy all over on the outside. LINN.
—*Stems* from 6 to 18 inches high, mostly upright, sometimes declining, but never prostrate. *Leaf-scales* in pairs, oval, with a point, scored, very downy. *Leaves* alternate, distant, the lower on long, the upper on short leaf-stalks, the uppermost fitting or nearly so; *leaflets* of the lower-leaves oblong-wedge-shaped, of the upper spear-shaped, fitting, downy on both sides, ribs not strongly marked, ferratures barely distinguishable with a glass. *Heads* oval, woolly, sometimes on short fruit-stalks, some terminating, but mostly in pairs. *Empalement* just shorter than the blossom, scores almost hid by long soft hairs; teeth nearly equal, straight, awl-shaped, not stiff. *Bloss.* pale red; *standard* spear-shaped; *wings* and *keel* equal. Mr. WOODWARD.—*Empalement of the fruit* contracted at the base of the teeth; teeth stiff, pointed, open, the lowermost half as long again as the rest. ST.

Dry meadows and pastures. [Bath Hills, near Bungay, Suff.
Mr. WOODWARD.] A. HUDS. B. LEERS. June.

**** Bladder Trefoils. *Empalements* inflated; *bellying*.

TRIFO'LIUM *fragiferum*. Spikes roundish. Strawberry
Empalements inflated, with 2 teeth,† bent back. Stems creeping.—

Curt. ii. 16.—Vaill. 22. 2.—J. B. ii. 379. 3. b.—H. ex. ii. 13.

14.—Clus. cur. 39, repr. in Ger. em. 1208, and cop. in Park.

1109. 5.—(Kiv. tetr. 10. 2, *T. fragiferum* is *T. tomentosum*.)

Stems throwing out roots. *Fruit-stalks* longer than the leaves. *Empalement* a little downy, nearly globular, woolly, (the upper part) with 2 teeth, the lower at the base with 3 teeth. *Bloss.* white with us, but in other countries reddish. LINN.—*Bloss.* purple. CURT.—*Leaf-scales* in pairs, oval-spear-shaped, drawn out into a long point, smooth. *Leaflets* heart or egg-shaped, smooth, very slightly ferrated. *Fruit-stalks* naked, longer than the leaf-stalks. Mr. WOODWARD.

Cows eat it.—Moist meadows and pastures. P. Aug.

***** Hop Trefoils. *Standard of the blossom bent inwards*.

TRIFO'LIUM *agrarium*. Spikes oval, tiled. hop
Standards bent downwards, permanent. *Empalements* naked. Stem upright.—

* Woolliness of the empalements not expressed. Mr. WOODWARD.

† *Empalement of the fruit* with 2 lips; the upper inflated bent back, terminated by 2 teeth; the lower with 3 teeth. ST.

Curt. iii. 27.*—*Vaill.* 22. 3.—*Riv. tetr.* 10. 1, *T. lupulinum*.—*Fl. dan.* 796.—*Walc.*—*J. B.* ii. 381. 1, *cop. in H. ox.* ii. 13. 1 and 2, the uppermost of the 2 figures.—(*Dod.* 576. 2, is *Medicago lupulina*.—*Lob. obs.* 468. 1, *repr. in ic.* ii. 29. 2, *Ger. em.* 1186. 6, and *cop. in Park.* 1111. 5, appears to me to be *T. procumbens*.—*Fl. dan.* 558, from the sitting odd leaflet should seem to be *T. aureum* of *Pollich.*)

Stems nearly upright, solitary. *Empalement* before flowering just sensibly woolly, not to be called hairy, the points of the teeth being only beset with 1 or 2 hairs; the 2 upper teeth as long as the rest. *Bloss.* yellow, not chestnut-coloured. LINN.—*Empal.* the 2 upper teeth very short, the lower longer and awl-shaped. POLLICH. MR. WOODWARD. ST.—Stems mostly upright, much branched, slightly downy. *Leaf-scales* in pairs, oval-spear-shaped, not ending in an awn. *Leaf-stalks* short. *Leaves* alternate; *leaflets* egg-shaped, or obtusely oval, smooth, slightly serrated, the terminating one on a pedicle, 1 to 1½ line long, the side ones nearly sitting. *Fruit-stalks* numerous, from the bosom of the leaves, solitary, longer than the leaf-stalks. *Flowers* upright, yellow, after flowering turning brown, and bent back. *Pedicles* short. *Floral-leaves* minute, awl-shaped, 1 at the base of each pedicle. *Bloss.* standard egg-shaped, scored, flat. MR. WOODWARD.—*Leaves* with about 10 or 12 semi-transparent lateral ribs. WITH.—*Empal.* the 3 lower teeth terminated, with from 1 to 3 longish permanent hairs. *Bloss.* pale yellow or straw-coloured. *Seed* 1, but in the seed-bud there are often the rudiments of 2. ST.

Gravelly meadows and pastures.

A. June. July.

Horses, Cows, Sheep, and Goats eat it.

trailing

TRIFO'LIUM *procumbens*. Spikes oval, tiled. Standards bent down, permanent. Stems trailing.—

Curt. v. 52.—*Ray* 14. 3. at p. 332.—*H. ox.* ii. 13. 1 and 2. b, the lowermost of the 2 figures.—*Lob. obs.* 468. 1, *repr. in ic.* ii. 29. 2, *Ger. em.* 1186. 6, and *cop. in Park.* 1111. 5, as it often is when growing among other plants.—(*Fl. dan.* 796, is *T. agrarium*.†)

Differs from the *T. agrarium* in having smaller flowers, and its long stems entirely drooping. Similar to *T. filiforme*, but larger, and has often 10 to 12 flowers in a head. *Leaves* not scored. When sown too proves distinct. LINN.—*Seeds* often 2. LEERS.—*Flowers* 8 to 20. CURT.—*Stems* numerous, 6 to 12 inches long, much branched.

* Good but trailing. MR. WOODWARD.

† More resembles *T. procumbens* than *T. agrarium*. MR. WOODWARD.

branched. *Leaf-scales* in pairs, obtusely oval-spear-shaped. *Leaf-stalks* short. *Leaflets* heart-wedge or egg-shaped, very entire towards the base, serrated upwards, the odd one on a short leaf-stalk, the side one nearly sitting, smooth. *Fruit-stalks* from the bosom of the leaves, longer than the leaf-stalks, slightly downy. *Pedicles* very short. *Floral-leaves* none. *Flowers* after flowering bent back, hanging more loosely and separate than those of *T. agrarium*. *Empal.* larger in proportion to the blossom than that of *T. agrarium*, the 2 upper teeth short, the lower longer and more pointed. *Standard* egg-shaped, pointed. Mr. WOODWARD.—*Leaves* scored. *Empal.* with a few scattered hairs. *Bloss.* brownish yellow. *St.*—*Stem* a little hairy. *Leaflets* inversely heart-shaped, mid-rib a little hairy underneath, with about 7 semi-transparent lateral ribs. WITH.

Meadows and pastures.

A. May—Aug.

Horses, Cows, Sheep, and Goats eat it.

TRIFO'LIUM *filifor'me*. Spikes somewhat tiled. *small*
Standards bent down, permanent. Empalements on pedicles. Stems trailing.—

Ray 14. 4. at p. 332.

Differs from *T. procumbens* as follows: When wild scarcely a span high. *Branches* trailing. *Fruit-stalks* hardly thicker than horse hair. *Flowers* 3 or 5 in a head, but when cultivated often 12 to 15, distinct, on more obvious pedicles. In the *T. procumbens* the fruit-stalks are as thick as a thread, not to mention the difference of the leaves and habit. *Stems* thread-like. *Leaflets* notched at the end, scored. *Fruit-stalks* longer than the leaves. *Flowers* bent down. *Pedicles* of the fruit clear and distinct. LINN.—*Seed* 1. LEERS.—*Stems* 3 to 6 inches long. *Leaf-scales* in pairs, oval-spear-shaped. *Leaf-stalks* very short. *Leaflets* mostly heart-wedge-shaped, very entire at the base, serrated upwards, strongly veined, smooth, nearly sitting. *Fruit-stalks* from the bosom of the leaves, smooth. *Flowers* when wild mostly 3, seldom more than 5. *Pedicles* extremely slender, from $\frac{1}{2}$ to 1 line long. *Floral-leaves* awl-shaped, very minute, 1 at the base of the pedicle of the middle flower, none on the others. *Empalement* half as long as the blossom, with 5 scores; the 2 upper teeth shortest, the lower longer, the lowermost the longest. *Bloss.* pale yellow; *standard* egg-shaped, somewhat nicked, keeled. Mr. WOODWARD.—*Flowers* 2 to 5. *St.*

Sandy meadows and pastures.

A. May—June.

The flowers of all the species, dried and powdered, may be made into bread, which, in times of scarcity, has preserved the inhabitants of Scotland from perishing. The leaves of all the species fold up before rain.

The

The *Papilio Cinxia*, and the *Phalæna Fascelina*, live upon the different species.

969. L O' T U S. Claver.

Rundle simple.

EMPAL. *Cup* 1 leaf; cylindrical; with 5 shallow clefts.

Teeth sharp; equal; upright; permanent.

BLOSS. butterfly-shaped.

Standard circular; bent downwards; claw oblong; concave.

Wings circular; shorter than the standard; broad; approaching upwards.

Keel hunched in the lower part; closed above; taper; ascending; short.

CHIVES. *Threads* 10; ascending; 9 united; rather broad at the ends. *Tips* small; simple.

POINT. *Seed-bud* cylindrical; oblong. *Shaft* simple; ascending. *Summit* a dot; bending inwards.

S. VESS. *Shell* cylindrical; stiff and straight; full; longer than the cup; valves 2; cell 1; but as if transversely divided into many.

SEEDS many; cylindrical.

ESS. CHAR. *Shell* cylindrical; quite straight. *Wings* approaching upwards longitudinally. *Empal.* tubular.

* *Fruit-stalks* with many flowers in a head.

birds-foot L O' T U S *corniculatus*. Heads flattened. Stems drooping. Shells cylindrical, expanding.—

Curt. ii. 18.—Ger. 1022. 6.—J. B. ii. 355.—Valc.—Dod. 573.

2, repr. in Lob. obs. 501. 2, ic. ii. 44. 1, Ger. em. 1190. 5, and cop. in H. ox. ii. 18. 10.—Anderson, *Astragalus glycyphyllus*.

—Fuchf. 527.—Trag. 594, cop. in Lonic. i. 106. 3.

Bloss. sweet-scented. LINN.—*Seeds* more than 20. CURT.—*Empalement* in this and all the varieties fringed with long soft hairs. *Petals* all equal, on narrow separate claws. *Shells* smooth, terminated by a long straight point. Mr. WOODWARD.—*Heads* with a single sitting leaf at the base. Mr. HOLLEFEAR. ST.—*Flowers* in flattened heads, in a sort of rundle with very short spokes. *Bloss.* before opening of a bloody red on the outside, and of a yellowish green within, when expanded of a full yellow; *standard* bent back; *wings* oblong-egg-shaped. *Summit* globular, very minute. WITH.

Meadows

Meadows, pastures, heaths, and road sides. P. June—Aug.

The flowers become greenish when dried; in that respect they resemble the flowers of the plants which produce Indigo.

Cows, Goats, and Horses eat it. Sheep and Swine are not fond of it.—*Thrips Phycopus* is found upon it. LINN.

In Hertfordshire it is cultivated as pasturage for Sheep. Bot. arr. ed. I.—It is strongly recommended by Mr. Anderson. CURT.—There is no doubt but it might be cultivated to great advantage. In moist meadows it grows to a great height, and much higher than any of the *Trefoils* or *Medicago lupulina*, and makes extremely good hay. Mr. WOODWARD.

β LINN.—Larger. Stem more upright. HALL. ST.

Riv. tetr. 76. 1, Lotus.—J. B. ii. 356. 1.

Leaves, and especially the unexpanded heads, with a good deal of woolliness. RAY.—Stem upright, 2 feet high, hardly angular. Leaf-scales heart-shaped, roundish. Leaves veined underneath. LYONS.—Leaf-scales bluntly egg-shaped, or roundish, but terminating in a point. Mr. WOODWARD.

Loti corniculatæ major species. R. syn. 334. (ST.)

Woods, moist meadows and hedges, [and sides of wet ditches. ST.]

P. June—Aug.

γ *tenuissimus*. LINN. Should seem to be a variety. Stems twice as long and narrow as those of α. Leaves strap-shaped. Shells narrower. LINN.—More shrubby. RAY. ST.—Leaf-scales strap-spear-shaped. Mr. WOODWARD.

Lotus foliis longioribus et angustioribus. HALL. 385. β II. (ST.)

Corn fields and moist places. RAY.—In the neighbourhood of Worcester. ST.

δ HUDS. Like β but less hairy. RAY.—Whole plant downy. Mr. WOODWARD.

Lotus pentaphyllos medius pilosus. R. syn. 334. (ST.)

In the fields behind Mother-huffs. RAY.

ε HUDS. Leaves hoary underneath.

Chalk pits at Greenhithe. RAY.

971. MEDICA'GO. Medick.

EMPAL. *Cup* 1 leaf; straight; cylindrical, but somewhat bell-shaped; with 5 shallow clefts; taper; equal.

BLOSS. butterfly-shaped.

Standard egg-shaped; entire; bent inwards at the edges; the whole bent back.

Wings oblong-egg-shaped; fixed to the appendage of the keel; approaching at the sides under the keel.

Keel oblong; cloven; expanding; blunt; bent downwards by the pointal, and with the standard forming a gaping mouth.

CHIVES. *Threads* 10; united almost the whole length. *Tips* small.

POINT. *Seed-bud* standing on a little fruit-stalk; oblong; bowed inwards; compressed; inclosed by the threads; bursting out of the keel, and pressing back the standard; ending in a *shaft* which is short; awl-shaped; generally straight. *Summit* terminating; small.

S. VESS. *Shell* compressed; long; bent inwards.

SEEDS many; kidney-shaped, or angular.

ESS. CHAR. *Shell* compressed; spirally wreathed. *Keel* of the blossom pressed down from the standard.

OBS. The shell, in some species, is rolled up spirally like a snail-shell; in others, bent like a bow, or a sickle.

Lucern MEDICA'GO *sativa*, Fruit-stalks with bunches. Shells twisted. Stem upright, smooth.—

Chf. ii. 242. 2, repr. in *Lob. obs.* 498. 1; *ic.* ii. 36. 2, *Ger. em.* 1189. 2, and cop. in *Park.* 1114. 1, and *H. ox.* ii. 16. row 1. 2, with the addition of a bunch in fruit; and ii. 15. row 3. II. a bunch in fruit.—*J. B.* ii. 378. 1.

Stems scored, declining. *Branches* alternate. *Leaf-scales* spear-shaped, ending in an awn. *Leaf-stalks* short. *Leaflets* 3-fold, elliptical, entire at the base, ferrated upwards, the mid-rib lengthened into a thorn-like point, slightly downy above, smooth, and scored with veins underneath, on leaf-stalks, that of the terminating one the longest. *Fruit-stalks* from the bosom of the leaves, longer than the leaves. *Bunches* thick. *Pedicles* short. *Floral-leaves* awl-shaped, 1 at the base of each pedicle. *Empalement* nearly smooth; teeth awl-shaped,

THREADS in 2 SETS, X. CHIVES.

807

awl-shaped, nearly equal. *Bloss.* purple. *Shells* twisted spirally with 2 or 3 distant turns. *Mr. Woodward.*

Trifolium siliqua cornuta, five *Medica*. *Bauh.* pin. 330.—*Trifolium burgundiacum*. *Ger. em.* 1189.—*Foenum burgundiacum* five *Medica legitima*. *Park.* 1114.—*Medica major, erectior, floribus purpurascens*. *Bauh. hist.* II. 377. (*Str.*)

Lucern.

Meadows, pastures, and ditch banks. *Huds.* P. June. July.

The modern writers upon husbandry strongly recommend the cultivation of this plant, for the purpose of feeding cattle, but it is not yet generally adopted.

MEDICA'GO *falca'ta*. Fruit-stalks with bunches yellow
Shells crescent-shaped. Stem prostrate.—

Fl. dan. 236.—*Riv. tetr.* 84, *Falcata*; serratures of the leaves not expressed.—*H. ox.* ii. 16. row 1. 1, and ii. 15. row 3. I, a bunch in fruit.—*Clus.* ii. 243. 1, repr. in *Ger. em.* 1191. 8, and cop. in *Park.* 1114. 3.—*J. B.* ii. 383. 2.

Stems cylindrical, smooth, slightly scored, declining. *Leaf-scales* in pairs, spear-shaped, almost all at the base, and some almost at the top of the branches with 1 or 2 teeth on the outer edge. *Leaf-stalks* short. *Leaves* smooth, 3-fold; *leaflets* elliptical or wedge-shaped, entire at the base, serrated upwards, mostly notched at the end, the mid-rib lengthened out into a projecting thorn-like point. *Fruit-stalks* longer than the leaves. *Bunches* rather loose. *Floral-leaves* awl-shaped. *Empalement* slightly downy; teeth awl-shaped, equal. *Bloss.* yellow or purple. *Shells* crescent-shaped, terminated by a long claw. *Seeds* 5 or 6, compressed, fixed to the inner suture. *Mr. Woodward.*

Yellow Medick. Butter-jags.

Balks of corn fields, and sandy pastures. Between Watford and Bushy-Hill. *RAY*.—About Norwich, plentifully. *Mr. Rose* [and *Mr. Woodward.*] P. July.

In hot, dry, barren sandy places it is well worth the trouble of sowing for the purpose of making hay. A practice long since adopted in some parts of Sweden.

Cows, Horses, Goats, and Sheep eat it.

MEDICA'GO *lupuli'na*. Spikes oval. Shells kidney- Trefoil
shaped, with 1 seed. Stems trailing.—

Curt. ii. 20.—*Riv. tetr.* 8, *Melilotus minima*.—*H. ox.* ii. 15. row 4. f, a bunch and leaf.—*Fuchs.* 819, cop. in *Trag.* 593, and *J. B.* ii. 380. 4, and *Dod.* 576. 2, which repr. in *Ger. em.* 1186. 5, *Park.* 1105. 6, and *H. ox.* ii. 16. 8.—*Ger.* 1020. 2.—*Lonic.* i. 106. 4.

3 G 2

Shells

Shells scored, wrinkled, somewhat rough with stiff hairs. LINN.
 —Stems, unless supported by other plants, trailing. Branches very numerous, alternate. Leaf-scales oval-spear-shaped, with a long awn. Leaves on very short leaf-stalks; leaflets 3-fold, oblong-wedge-shaped, ferrated upwards, nicked at the end, with the mid-rib lengthened into a projecting point. Head oval. Flowers small. Empalement slightly downy, nearly as long as the blossom; teeth awl-shaped, the 2 upper ones rather shorter. Bloss. yellow. Shells turning when ripe. Mr. WOODWARD.—Stem a little triangular. Flowers 30 to 40, and upwards. WITH.

Melilot Trefoil. [Black Nonsuch, Norfolk. Mr. WOODWARD.]

Corn fields, meadows, and pastures.

A. May—Aug.

Cows, Horses, Goats, and Sheep eat it; but it is less grateful to them than the other species. LINN.

It is cultivated in Norfolk under the name of Nonsuch, and is usually sown mixed with Rye-grass (*Lolium perenne*.) The crop is then called black and white Nonsuch. Mr. WOODWARD.

β HUDS.

H. ox. ii. 15. 14.

Shells about 10, slightly compressed, rough with numerous tubercles. RAY.

Medica polycarpus fructu minore compresso scabro. R. syn. 333.—*Medica cochleata*, &c. H. ox. ib.—The rest of the synonyms in the Fl. angl. belong to α. ST.

Corn fields near Peckham, Paddington, and behind Pindar's-end, near Enfield. RAY.

Snailshell MEDICA'GO polymor'pha. Shells spirally wreathed. Leaf-scales toothed. Stem spreading.—
 heart 9 M. arabica. Fruit-stalks with mostly 3 flowers. Shells hedge-hogged. Leaflets inversely heart-shaped. GOUAN. LINN.—Fruit-stalks with mostly 2 flowers, HUDS.—rather 2 shells. ST.

Curt. iii. 30.—Cam. hort. 27.—Ger. 1021. 4, cop. in Ger. 1190. 4, and Park. 1115. 6.—H. ox. ii. 15. row 2. 12, a bunch and leaf. Prickles too short.—(ib. 17, is an erroneous reference.)

Leaflets with a spear-shaped blood-coloured spot, which after flowering disappears. Flowers 4 or 5. Fruit with widely diverging thorns. LINN.—Stem 4-cornered, with long whitish hairs below, smooth above. Leaf-stalks cylindrical, channelled, hairy in like manner. Leaflets 3, somewhat ribbed, smooth, marked above with a blackish brown heart-shaped spot; edge partly entire, partly serrated. Leaf-scales pointed, ferrated. Fruit-stalks from the bosom of the leaves, hairy, with 5 flowers, but 2 or 3 of these generally abortive. Bloss. standard notched at the end, much larger than the other

other petals. *Threads*, 9 united, the 10th solitary. *Shaft* hunched above. *Shell* of the shape of a cask, spiral, with about 5 turns; thorns more than a line long, bowed, crooked, pointing upwards and downwards. I describe this, as specific characters of the various sorts of *M. polymorpha* not having been hitherto given, and surely they are not all to be considered as varieties. WILLICH.—*Shells* flat at the base, narrowing towards the top; wreaths flat; prickles expanding, hooked at the ends. ST.

Medica cochleata minor πολυκαρπὸς *annua capsula majore alba, folio cordato, macula fusca notato.* H. ox. II. p. 154. n. 17. (ST.)

Heart Trefoil. Heart Clover.

Dry sandy pastures, borders of fields, especially on the sea shore. [Wells, in Norfolk. Mr. CROWE.] A. May.

^ *M. minima*. LINN.—*Shells* mostly 3. Thorns hooked. small Leaf-scales entire. GOUAN. and GER. *prov.*

H. ox. ii. 15. row 2. 15, bunch of fruit.—J. B. ii. 386. b.—Riv. tetr. 88, *Cochleata* row 4. f. 4, ech. min. bunch of fruit, prickles too short.—J. B. ii. 386. 2. a, cop. in Park. 1115. 7. a, leaves egg-shaped, pointed.—Fl. dan. 211.*

Shells several, scarcely larger than the seeds of *Orobis*, the spirals rough with thorns bowed back laterally. *Leaf-scales* entire. LINN.—*Plant* downy, small. *Stem* prostrate. *Leaflets* wedge-shaped, notched at the end, with a point, finely serrated. *Leaf-scales* spear-shaped, hardly scolloped. *Fruit-stalks* somewhat longer than the leaves, with 2 to 4 shells. SCHREB. ST.—*Root* frequently enveloped at the top with the old shell as represented in J. B. ii. 386. 2. a; striking deep, white, tough, of the size of small twine, with a few stiff fibres. *Whole plant*, except the blossoms, covered with a white silky down. *Stems* somewhat angular, numerous, trailing, often tinged with purple. *Leaf-scales* spear-shaped, entire, ribbed. *Leaves* on leaf-stalks; *leaflets* 3-fold, the lateral ones fitting, the middle one on a leaf-stalk, oblong-wedge-shaped, very entire at the base, serrated upwards, with strong ribs terminating in serratures, notched at the end with an intermediate projecting point. *Fruit-stalks* as long as the leaves. *Flowers* from 1 to 6, in a loose head, on short unequal pedicles. *Empal.* teeth 5, awl-shaped, as long as the body of the empalement. *Bloss.* small, pale yellow. *Shells* with stiff hooked prickles. Mr. WOODWARD.

* Leaflets spear-shaped, shells very ill done. Mr. WOODWARD. ST.

Medicago minima. SCHREB. spicil. p. 27.—*Trifolium echinatum arvense fructu minore*. BAUH. pin. 330.—*Medica echinata parva recta*. PARK. 1115.—*Medica cochleata πολυκαρπος annua, capsula minima, rotunda*. H. ox. II. p. 154. n. 20.—*Medicago pedunculis multifloris, leguminibus cochleatis, spinulis hamatis, stipulis integris*. GER. prov. p. 519. var.—*Medica foliis emarginatis serratis, racemis paucifloris, siliquis globosis echinatis*. HALL. hist. n. 383. α. (ST.)

Sandy places, but rather rare. RAY.—[Narborough, near Swaffham, Norfolk, in a very light sand. A. MR. WOODWARD.]

γ HUDS. Pluk. 113. 6. *I have never seen any native specimen which I could suppose to be this species, but the figure of Plukenet corresponds the most exactly with my specimens of M. polymorpha ciliaris, a plant figured in H. ox. ii. 15. row 2. 11.*

Medica minor orbiculato compresso fructu, circum oras spinis molliusculis echinato. PLUK. alm. p. 243. (ST.)

Orford, Suffolk, on the sea-beach, plentifully. RAY.

δ HUDS. Park. 1116. f. 3 and 5.

Leaves green, those near the ends of the branches woolly. PLUK.

Medicæ marinæ spinosæ species. GER. em. 1200.—*Medica marina major spinosa*. PARK. 1115, “and another sort that differeth only in the “smallness.” ib. (ST.)

ε *hybrida*. Fruit-stalks with mostly 2 flowers. The lower shells spirally wreathed, thorny; the upper somewhat bowed. Leaf-scales toothed. Stem spreading. HUDS.

Lower shells with 5 turns; thorns diverging; seeds perfect. Upper shells strap-shaped, half an inch long, bowed or bent inwards, slightly protuberating; seeds imperfect. HUDS.

Near Charlton, Kent.

OBS. If all the different sorts of *M. polymorpha* are only varieties, how happens it that only one of them has been found growing wild in Switzerland. M. Gerard appears very properly to have considered them as species. HALL. ST.—This opinion has been confirmed by the practice of Schreber and Jacquin. ST.

Class XVIII.

POLYADELPHIA.

THREADS in many SETS.

THIS Class comprehends the Plants whose Flowers have Chives united by the THREADS into 3 or more sets.

Order IV.

POLYANDRIA; MANY CHIVES.

981. HYPER'ICUM. Cup 5 divisions; beneath. Blofs.
petals 5. Shafts 1, 3, or 5.
Caps. 1 or more cells.

Order IV.

POLYANDRIA; MANY CHIVES.

981. HYPER'ICUM. St. John's-wort. (Ray.)

EMPAL. *Cup* 5 divisions; *segments* somewhat egg-shaped; concave; permanent.BLOSS. *Petals* 5; oblong-egg-shaped; blunt; expanding; bending from left to right.CHIVES. *Threads* numerous; hair-like; connected at the base into 3 or 5 sets. *Tips* small.POINT. *Seed-bud* roundish. *Shafts* 3; sometimes 1, 2, or 5; simple; distant; as long as the chives. *Summits* simple.S. VESS. *Capsule* roundish; with as many cells as there are shafts.

SEEDS several; oblong.

ESS. CHAR. *Empal. divisions* 5. *Petals* 5. *Threads* many; united at the base into 5 sets. *Capsule*.Tutſan HYPER'ICUM *Androsæ'mum*. *Shafts* 3. Fruit like a berry. Stem shrub-like, 2-edged.—*Curt.* iii. 35.—*Dod.* 78. 2, repr. in *Lob. obs.* 357. 3, ic. i. 632.1, *Ger. em.* 543. 1, and cop. in *Park.* 576. 1.—*Blackw.* 94.—*Ger.* 435.—*H. ox.* v. 6. 12.*Leaves* opposite, sitting, smooth, entire, egg-shaped, at the base of the branches very large, those of the branches decreasing in size as they approach the summit, and approaching to spear-shaped. *Empal. segments* unequal. *Berries* black when ripe. Mr. WOODWARD.—*Leaves* opposite, egg-shaped, smooth. *Flowers* terminating, 4 together. *Fruit-stalks* cylindrical, smooth. *Empal.* the 3 outer segments much larger. *Petals* yellow, concave, scored, unequal at the end from a hollow in the margin on one side. WITH.Tutſan. *Park-leaves*.

Woods and moist hedges. [Near Pengwarry, Cornwall, in ditches. Mr. WATT.—Duke of Bridgewater's woods at Askeridge, and near Berkhamstead, Hertfordshire. Mr. WOODW.—Lanes at the foot of Malvern Hill, Worcestershire. ST.] P. July.

It is not uncommon in our flower gardens.

A Horse refused it. ST.

HYPER'ICUM

HYPER'ICUM *quadrangula're*. Shafts 3. Stem *quadrangular* square, herbaceous.—

Curt. iv. 38.—*Fl. dan.* 640.—*Trag.* 73. 2.—*Matth.* 937, *cop. in* *Dod.* 78. 1, which *repr. in Lob. obs.* 216, *ic.* 399. 1, *Ger. em.* 542, and *cop. in Park.* 575, *Ger. em.* 434, and *abridged in H. ox.* v. 6. 10, and *Pet.* 60. 11.—(*J. B.* iii. 382. 2, is a *different plant.*)

Leaves without pellucid pores. LINN.—Others assert the contrary. REICH.—*Stem* reddish, smooth. *Branches* opposite. *Lower leaves* fitting, opposite; the upper growing together, egg-shaped, with 7 or 9 ribs, with a net-work of veins, with transparent glands in the interstices, though not very numerous; discernible when viewed with a glass in a strong light. *Floral-leaves* awl-shaped, in pairs. *Empalement* spear-shaped. MR. WOODW.—*Stem* branched; edges marked with short dark purple glandular streaks. *Leaves* in pairs, fitting, oblong-egg-shaped, ribbed, dotted along the edges with black glands, particularly on the under side. *Empal.* segments ribbed, rather expanding, a little toothed at the end. *Petals* yellow, ribbed, concave, marked with dark purple lines and dots, filled with a purple liquor which stains paper with a muddy purple permanent stain. *Tips* with a small black gland. *Shafts* yellow. *Summits* purple. WITH.

Hypericum tertium. TRAG. 75. (ST.)

St. Peter's-wort.—Moist hedges and shady places. P. July.

Cows, Goats, and Sheep eat it. Horses and Swine refuse it.

HYPER'ICUM *perforatum*. Shafts 3. Stem 2-edged. common. *Leaves* blunt, with transparent dots.—

Ludw. 11.—*Curt.* i. 2.—*Mill. ill.*—*Blackw.* 15.—*Dod.* 76. 1, *repr. in Lob. obs.* 216. 1, *ic.* i. 398. 1, *Ger. em.* 539. 1, and *cop. in Park.* 573. 1, and *Pet.* 60. 5.—*Matth.* 936.—*Ger.* 432. 1.—*Fuchs.* 831, *cop. in Trag.* 72. 1, and *H. ox.* v. 6. 1.—(*Lonic.* i. 129, is *H. crispum*, and *Trag.* 73. 1, *H. quadrangulare.*)

Tips with a black dot. *Summit* blood-coloured. LINN.—*Empal.* destitute of glands. *Chives* in 3 sets. RELH.—*Stem* much branched, somewhat 2-edged. *Branches* opposite. *Leaves* elliptical, or egg-shaped, opposite, fitting. *Floral-leaves* in pairs, awl-shaped. *Empal.* segments spear-shaped. *Petals*, the back and edges frequently marked with black dots or lines. MR. WOODW.—*Whole plant* quite free from hairs. *Stems* upright, nearly cylindrical, the edges running from the base of the leaves to the bottom of the knot below, beset above with small black dots. *Leaves* in cross pairs, oblong, rounded at the end, with 7, and sometimes 5, semi-

semi-transparent lines, with several black dots near the edges on the under side; the semi-transparent dots numerous. *Fruit-stalks* from the bosom of the upper leaves. *Empal.* segments spear-shaped, ending in a taper point. *Petals* ribbed, set near the edges with dark purple glands, one of the sides very entire at the edge, the other ferrated. *Chives* 30 or more. *Tips* with a globular black gland at the top between the lobes. *Seed-bud* egg-shaped. *Shafts* thread-shaped, yellow. *Summits* crimson. *WITH.*—*Leaves*, when cultivated the dots are sometimes red. *Flowers* open both night and day. *Tips* double, yellow.

St. John's-wort.—Thickets, woods, and hedges. P. July.

This plant has long held a place in the *materia medica*, but its use is very much undetermined. The semi-transparent dots, on the leaves, are the receptacles of an essential oil. The leaves, given in substance, are said to destroy worms. The flowers tinge spirits and oils of a fine purple colour, which is probably derived from the little glands upon the tips, and upon the edges of the petals.

Cows, Goats, and Sheep eat it. Horses and Swine refuse it.

trailing HYPER'ICUM *humifusum*. *Shafts* 3. *Flowers* solitary, from the bosom of the leaves. *Stems* 2-edged, prostrate, thread-shaped. *Leaves* smooth.—

Curt. iii. 28.—*Fl. dan.* 141, as when first beginning to blossom.—

Clus. ii. 181. 3, repr. in *Dod.* 76. 2, *Lob. ic.* i. 400. 1, *Ger. em.* 541. 4, and cop. in *Pet.* 60. 8.—*Trag.* 72. 2.—*J. B.* iii. 386. 1, cop. in *H. ox.* v. 6. 3.

Very nearly allied to *H. perforatum*, but *flowers* solitary, from the bosom of the leaves, and the *leaves* without transparent points. *LINN.*—*Leaves*, when examined with a magnifying glass, with transparent dots, and beset along the edge with black dots. *Empalement* with black dots and glands. *Petals* with glands, scored underneath towards the point with red veins. *RELHAN.*—*Stems* numerous. *Leaves* opposite, fitting, egg-shaped, or bluntly oval, entire, with 7 veins, with semi-transparent dots not distinguishable but with a glass and a strong light. *Fruit-stalks* also terminating. *Floral-leaves* none. *Empalement* divided almost to the base; segments bluntly spear-shaped, marked on the back and edges with black dots. *Petals*, edges beset with black dots. *MR. WOODW.*—*Leaves* with transparent dots. *MR. HOLLEFEAR.*—*Leaves* somewhat dotted; dots transparent, scattered, mostly solitary. *Stems* often ascending, sometimes 8 inches long. *ST.*—*Stems* somewhat flattened. *Leaves* oblong, smooth, set with glands near the edges, scored with semi-transparent lines. *Flowers* sometimes in pairs.

Empal.

Empal. segments unequal, spear-shaped, terminated by a very small point, a little toothed at the edges, marked with dark purple spots and streaks. *Petals* yellow, with a tinge of red on the outside, set with a few blackish glands at the end. *Chives* in 3 sets, 5 or 6 in each. *Tips* without glands. *Summit* sometimes tinged with red. *Capsule* egg-shaped. WITH.

Meadows, pastures, heaths, [and woods, as Ronck's Wood, near Worcester. ST.—Stuilton Common, near Difs, Norfolk. Mr. WOODWARD.—Malvern Common, Worcestershire. Mr. BALLARD.] P. July.

2. Leaves growing by threes. WITH.

HYPER'ICUM *elo'des*. Shafts 3. Stem cylindrical *marsh* cal, creeping, woolly. Leaves woolly, roundish.—

Pet. 60. 12.

Stems downy, creeping far, throwing out roots from the spaces between the joints, a span high, somewhat branched. *Leaves* opposite, sitting, ribbed, very entire. *Panicle* terminating, with few flowers. *Floral-leaves* with red glands. [*Empalement* with 5 clefts, scored, somewhat reddish. *Bloss.* golden yellow, seldom expanded, but rolled spirally inwards. RELHAN,—*Stems* trailing and creeping. *Flowering branches* ascending, 5 or 6 inches high. *Leaves* sitting, frequently slightly nicked at the end, with 5 ribs, and with dots not visible but with a glass, and held against a strong light. *Flowers* few in a panicle. *Panicle* branched, leafless. *Floral-leaves* oval-spear-shaped, minute, reddish, edged with red glands, a pair beneath each division. *Empalement* reddish, about 1-4th as long as the blossom, deeply divided; segments oval, edged with minute red glands. *Bloss.* reddish yellow, usually closed, twisted spirally, sometimes merely folded up. Mr. WOODWARD.—*Leaves*, dots circular, exceedingly minute, scarcely visible to the naked eye. ST.—*Stem* 3 to 8 inches long. *Leaves* opposite. *Fruit-stalks* smooth, terminating. *Floral-leaves* coloured, glandular. *Empal.* segments serrated with reddish glands. *Petals* yellow, with 8 greenish lines, and a small greenish gland on the inner side of the claw. *Threads* in 3 sets, about 3 in one set, 4 in another, and 5 in the third. WITH.

Marshy places, in a peaty spongy soil. [Bogs in Norfolk, not unfrequent. Boggy ground near Norwich. Mr. WOODWARD.—Birmingham Heath. WITH. ST.] P. July.

HYPER'ICUM *montanum*. Shafts 3. *Empal.* with *mountain* glandular serratures. Stem cylindrical, upright. Leaves egg-shaped, smooth.—

Fl.

Fl. dan. 173.—*Trag.* 73. 3.—*Pet.* 60. 7.—*J. B.* iii. 383. 2.—*H. ox.* v. 6. 9, *leaves too pointed*.—*Fuchf.* 74.—(*Math.* 938; more resembles *H. hircinum*.—*Fuchf.* 76, *cop. in J. B.* iii. 382. 2, is a different species.)

Its height and structure so conformable with that of *H. hirsutum*, would induce one to suppose the one to have originated from the other, but the *floral-leaves* at the top of the stem are small, and fringed with glandular hairs, which is not the case with *H. hirsutum*. LINN.—*Stem* upright, cylindrical, smooth. *Leaves* in pairs, sitting, egg-shaped, the upper egg-spear-shaped, smooth, with 7 ribs, and a net-work of veins, the edges set with black dots. *Flowers* in panicles. *Panicles* branched, terminating, or from the bosom of the upper-leaves. *Floral-leaves*, *fruit-stalks*, and *empalements* beset with strong hairs, each terminated by a black gland. *Empal.* divided almost to the base; segments spear-shaped, pointed. MR. WOODWARD.—*Upper-leaves* with numerous, minute, circular, transparent dots, visible to the naked eye, in the lowermost pairs only dotted towards the base. *Bloss.* yellow. ST.

Woods and thickets, in mountainous situations. Frequent in the west of England. Charlton Wood. Above Bwrdd Arthur, Anglesea. MR. DAVIES in *Penn. Wales* II.—Syke's Wood, near Ingleton, Yorkshire. CURT.—Hedge banks and sides of woods about Perfhore and Bredon Hill, Worcestershire. NASH.—[Bath Hills, near Bungay, Suffolk. MR. WOODWARD.] P. July.

hairy HYPER'ICUM *hirsutum*. Shafts 3. Empalements with glandular serratures. Stem cylindrical, upright. Leaves egg-shaped, somewhat downy.—

Pet. 60. 10.—*H. ox.* v. 6. 11.—*Fl. dan.* 802, represented as perfectly smooth, and the leaves too pointed.—*Fuchf.* 76, *cop. in J. B.* iii. 382. 2.—(*Trag.* 73. 3, is *H. montanum*.—*Math.* 937, *cop. in Dod.* 78. 1, which repr. in *Lob. obs.* 216. 3, ic. i. 399. 1, are *H. quadrangulare*; and *Trag.* 73. 2, seems to be the same species.)

The flowers close in the night, which those of the *H. perforatum* do not. LINN.—The uppermost leaves,, and the leaves of the empalement, beset with glands. RELHAN.—Resembles *H. montanum* in growth and the shape of the leaves, but larger. Stem and leaves woolly. Flowering branches from the bosom of the upper-leaves. Flowers more numerous. Panicle looser and more branched. *Empal.* and *floral-leaves* with black glands; glands sitting, except a few on short foot-stalks. MR. WOODWARD.—Leaves with transparent unequal dots. ST.—Stem upright, nearly cylindrical, with a brownish short wool. Leaves in cross pairs, those of the stem egg-shaped, broader

broader than those of *H. perforatum*, rough with short hair, with 7 or 9 ribs, and numerous semi-transparent dots; those of the branches spear-shaped. *Floral-leaves* with glandular serratures at the edges. *Empal.* segments spear-shaped, with about 12 glands on each. *Petals* yellow. entire, with 6 or 8 ribs, and a few black glands at the end. *Chives* about 24. *Seed-bud* egg-shaped. *Shafts* thread-shaped, yellow. *Summits* crimson. WITH.

Thickets and hedges.

P. June. July.

Sheep eat it. Horses refuse it.

HYPER'ICUM pul'chrum. Shafts 3. Empalements *upright* with glandular serratures. Stem cylindrical. Leaves embracing the stem, heart-shaped, smooth.—

Curt. i. 1.—*Fl. dan.* 75.—*Walc.*—*Trag.* 74, cop. in *Pet.* 60. 6, *Lonic.* i. 130. 2, *J. B.* iii. 383. 1.

Whole plant smooth. *Leaves*, viewed with a magnifying glass, perforated towards the end. *Petals* all along the edge supporting black glands, scored underneath with red veins. *Empal.* leaves egg-shaped. **RELHAN.**—*Stem* upright, often red. *Leaves* in distant pairs, heart or obtusely egg-shaped, green above, sea-green beneath, with numerous half transparent dots. *Flowering branches* from the bosom of the upper leaves, slender, with 1 or more flowers at the end, and 1 or 2 small leaves. *Floral-leaves* none. *Empalement* very short, deeply divided; segments oval, blunt; glands black. *Petals* set at the edge with black glands. **MR. WOODW.**—*Stem* smooth. *Leaves* in opposite pairs. *Flowers* mostly in three's. *Empalement* and *petals*, edges set with dark-coloured glands. *Threads* shining, yellow, in 3 sets, about 18 in each set. *Tips* scarlet. WITH.

Woods, hedges, and heaths. [Heaths near Norwich. **MR. CROWE.**—Heaths in Hertfordshire. **MR. WOODW.**] P. July.

Class XIX.

SYNGENESIA.

TIPS UNITED.

THIS Class comprehends those Flowers which Botanists have very generally agreed to call *Compound*. The essential character of a COMPOUND FLOWER consists in the TIPS being united so as to form a Cylinder, and a *single* SEED being placed upon the Receptacle, under each Floret. The DANDELION and the THISTLE are compound Flowers; that is, each of these *Flowers* are composed or compounded of a number of small Flowers, called FLORETS.

Character of the FLOWER.

It is composed of many *Florets*, sitting upon a COMMON RECEPTACLE, and inclosed by 1 COMMON EMPALEMENT. The

Surface of the RECEPTACLE is either concave; flat; convex; pyramidal; or globular. It is either *Naked*, that is, marked only with little dots, as in DANDELION; or

Hairy; covered with soft upright hairs as in THISTLE; or *Chaffy*; beset with awl-shaped, narrow, compressed, upright, chaffy substances, separating the Florets, as in CHAMOMILE or YARROW.

The COMMON EMPALEMENT is a *Cup* which surrounds the Florets and the common Receptacle. (*When the Florets have blossomed it contracts; but when the Seeds are ripe it expands, and falls back.*) It is either

Simple; when formed with only a single row of Scales or Leaves, as in GOATS-BEARD;

Tiled; when the Scales are numerous, the outer ones gradually growing shorter and lying upon the inner ones, like the Tiles upon a House, as in ARTICHOKE;

Leafy; when a single row of equal and longer segments stands next to the Florets, and another row of very small scales surrounds the base of those segments, as in DAISEY.

The

The structure of the FLORETS that compose a compound Flower, will be best understood by pulling to pieces the flower of a Thistle, of Dandelion, or of the Sunflower, and comparing the Florets with the following

Natural Character of a FLORET.

EMPAL. none, but the crown of the seed fitting upon the top of the seed-bud.

BLOSS. 1 *petal*. Tube very slender and long; fitting upon the seed-bud. (*it is either*)

1. TUBULAR. Border bell-shaped; with 5 clefts. Segments reflected and expanding, as in THISTLE or BURDOCK.

2. NARROW. Border strap-shaped; flat; turned outwards; lopped at the end; which is either entire, or marked with 3 or 5 teeth, as in DANDELION or ENDIVE.

3. NONE. Border wanting; and sometimes the petal is altogether deficient.

CHIVES. Threads 5; hair-like; very short; fixed to the neck of the blossom. Tips 5; upright; strap-shaped; connected at the sides so as to form a hollow cylinder, as long as the border of the blossom, and marked at at the top with 5 teeth.

POINT. Seed-bud oblong; standing under the blofs. upon the common receptacle. Shaft thread-shaped; upright; as long as the chives; passing through the hollow cylinder formed by the tips. Summit cloven; the segments rolled back and expanding.

S. VESS. properly speaking, none; though, in some foreign Genera, there is a sort of leathery crust over the seed.

SEED single; oblong; frequently with 4 edges; generally narrower towards the base.

Crowned with a FEATHER, which either consists of many Undivided hair-like spokes, placed in a circle, or of spokes that are Branched or radiated. This Feather again is either supported upon a little Pillar, or else Sitting immediately upon the seed. DANDELION. THISTLE.

..... with a small CUP, which has generally 5 teeth, and is permanent.

..... neither with a Cup, nor with a Feather. TANSEY.

OBS.

Obs. In examining the minuter Florets, the dissecting Instruments, and the Botanic Microscope, will be found extremely useful.

The disposition of the Chives and Pointals varying, occasions the following

Distinction of FLORETS.

BLOSS. Tubular	{	1. With chives and a pointal.
		2. With chives, but no pointal.
		3. With a pointal, but no chives.
		4. Neither chives, pointal, nor summit.

BLOSS. Narrow	{	1. With chives and a pointal.
		2. With chives, but no pointal.
		3. With a pointal, but no chives.
		4. Neither chives, pointal, nor summit.

From

From considering the different structure of the Florets, it is evident, that the compound Flowers may be composed either

- Of {
1. Florets *Tubular* in the centre, with chives and pointals. *Tubular* in the circumference, with chives and pointals.
 2. Florets *Tubular* in the centre, with chives and pointals. *Tubular* in the circumference, with only pointals.
 3. Florets *Tubular* in the centre, with chives and pointals. *Tubular* in the circumference, with neither chives nor pointals.
 4. Florets *Tubular* in the centre, with chives and pointals. *Narrow* in the circumference, with chives and pointals.
 5. Florets *Tubular* in the centre, with chives and pointals. *Narrow* in the circumference, with only pointals.
 6. Florets *Tubular* in the centre, with chives and pointals. *Narrow* in the circumference, with neither chives nor pointals.
 7. Florets *Tubular* in the centre, with chives and pointals. *Pointals* in the circumference without blossoms.
 8. Florets *Tubular* in the centre, with chives and imperfect pointals. *Pointals* in the circumference without blossoms.
 9. Florets *Narrow* in the centre, with chives and pointals. *Narrow* in the circumference, with chives and pointals.

The ORDERS, therefore, according to the system we have adopted, will be as follows.

- I. Polygamia æqualis. *Chives and Pointals equal*. That is, when all the Florets are furnished with Chives and Pointals. (9. 1. 4. of the preceding table.)
- II. Polygamia superflua. *Superfluous Pointals*. That is, when the Florets in the centre have both Chives and Pointals; but the Florets in the circumference only Pointals. (2. 5. 7. of the preceding table.)
- III. Polygamia frustranea. *Barren Florets*. That is, when the Florets in the centre have both Chives and Pointals; but the Florets in the circumference neither. (3. 6. of the preceding table.)
- IV. Polygamia necessaria. *Necessary Pointals*. That is, when the Florets in the centre have both Chives and Pointals, but, from some defect in the Pointals, produce no Seed. The Florets in the circumference have Pointals only, and produce perfect Seeds. (8. of the preceding table.)
- V. Polygamia segregata. *Separated Florets*. That is, when several Cups filled with florets are contained in another larger cup, so as to form but 1 flower.
- VI. Monogamia. *Flowers simple*. That is, when there is only 1 flower in each empal. and these not inclosed by another larger empal. so as to form a compound flower.

OBS. This is a Natural Class, except the last Order, which, from the principles of the System, is necessarily introduced here.

The plants of this Class are supposed to have various specific virtues. Most of them are bitter; none of them poisonous, except, perhaps, the *LACTUCA viroſa*, when growing in shady situations.

The elasticity of the empalement in the *PICRIS*, *CARDUUS*, and many other genera, is too remarkable to pass unnoticed by the slightest observer. It seems as if the expansion of the florets first burst the empalement open, and when these wither it closes again. The downy hairs that crown the Seeds, before upright, now begin to expand, and, by this expansion, again open the leaves of the empalement, and bend them quite back. The Seeds now escape, and the empalement, becoming dry and withered, no longer retains its elastic power.

The

The hairy appendages of the Seeds are very properly called FEATHERS; for, by means of these, the Seeds are wafted about in the air, and disseminated far and wide. The structure of these Feathers deserve our notice: there is hardly a child that is insensible to their beauty in the LEONTODON or *Dandelion*.

Order I.

POLYGAMIA ÆQUALIS;
CHIVES and POINTALS EQUAL.

* All the Florets NARROW.

11000. CICHOR'RIUM. Recept. a little chaffy. Feather with about 5 teeth. Cup double.
997. HYPOCHÆ'RI. Recept. chaffy. Feather somewhat downy. Cup tiled.
984. TRAGOPO'GON. Recept. naked. Feather downy. Cup simple.
986. PI'CRIS. Recept. naked. Feather downy. Cup double.
991. LEON'TODON. Recept. naked. Feather downy. Cup tiled with flexible scales.
987. SON'CHUS. Recept. naked. Feather hairy. Cup tiled and bellying.
993. CRE'PIS. Recept. naked. Feather hairy. Cup double; with scales of different shapes.
990. PRENAN'THES. Recept. naked. Feather hairy. Cup double; containing about 5 florets.
988. LACTU'CA. Recept. naked. Feather hairy. Cup tiled; scales skinny at the edges.
992. HIERA'CIIUM. Recept. naked. Feather hairy. Cup tiled; egg-shaped.
998. LAP'SANA. Recept. naked. Feather o. Cup surrounded at the base by a little cup.
995. HYOS'ERIS. Recept. naked. Feather not hairy. Cup nearly equal.

* * Flowers in globular heads.

1008. CARLI'NA. Cup radiate. Rays coloured.
 1002. ARCTIUM. Cup with scales bent inwards at
 the points, and hooked.
 1004. CAR'DUUS. Cup with thorny scales; distend-
 ed. Recept. hairy.
 1006. ONOPOR'DUM. Cup with thorny scales; distend-
 ed. Recept. like a honey-comb.
 1003. SERRA'TULA. Cup with scales tiled; sharp, but
 without thorns; nearly cylin-
 drical.

† *Centaurea nigra*.

*** *All the Florets* TUBULAR.

1015. EUPATO'RIUM. *Recept.* naked. *Feather* downy.
 Cup tiled. *Pointal* very long.
 1023. ATHANA'SIA. *Recept.* chaffy. *Feather* chaffy. *Cup*
 tiled.
 1012. BI'DENS. *Recept.* chaffy. *Feather* with awns.
 Cup tiled.

† *Senecio vulgaris*. *Tanacetum vulgare*. [Tuffilago Petasites. ST.]

Order II.

POLYGAMIA SUPERFLUA;
SUPERFLUOUS POINTALS.

* *All the Florets* TUBULAR.

1025. ARTEMIS'IA. *Recept.* almost naked. *Feather* o.
Bloss. in the circumference o.
1024. TANACE'TUM. *Recept.* naked. *Feather* only a
sort of border. *Bloss.* of the
circumference with 3 clefts.
1030. CONY'ZA. *Recept.* naked. *Feather* hairy.
Bloss. of the circumference with
3 clefts.

1026. GNAPHA'LIUM.

1026. GNAPHA'LIUM. *Recept.* naked. *Feather* downy.†
Cup with skinny concave scales.

† *Senecio vulgaris*. [*Tussilago Petasites*, *hybrida*. ST.]—
Erigeron, *Bidens*, *gen. pl. ed. vi.*

** Florets of the circumference NARROW.

1042. BEL' LIS. *Recept.* naked. *Feather* o. *Cup*
 simple, with equal scales.

1049. MATRICA'RIA. *Recept.* naked. *Feather* o. *Cup*
 tiled with sharp scales.

1048. CHRYSAN'THEMUM *Recept.* naked. *Feather* o. *Cup*
 with the inner scales membra-
 naceous.

1039. DORO'NICUM. *Recept.* naked. *Feather* hairy.
Feather of the rays o.

1037. IN'ULA. *Recept.* naked. *Feather* hairy. *Tips*
 with 2 bristles at the base.

1031. ERIG'ERON. *Recept.* naked. *Feather* hairy.
Bloss. in the circumference very
 slender.

1035. SOLIDA'GO. *Recept.* naked. *Feather* hairy.
Bloss. of the circumference
 about 6; remote.

1036. CINERA'RIA. *Recept.* naked. *Feather* hairy. *Cup*
 equal; simple.

1033. SENE'CIO. *Recept.* naked. *Feather* hairy. *Cup*
 with the scales dead at the
 ends.

1032. TUSSILA'GO. *Recept.* naked. *Feather* hairy. *Cup*
 with somewhat membranace-
 ous scales.

1034. AS'TER. *Recept.* naked. *Feather* hairy. *Cup*
 a little rough and scurfy.

1052. AN'THEMIS. *Recept.* chaffy. *Feather* o. *Cup*
 hemispherical.

1053. ACHILLE'A. *Recept.* chaffy. *Feather* o. *Circum-*
ference containing about 5 flo-
 rets. *Cup* oblong.

† In some species it is hair-like. *Gen. pl.* ST.

Order III.

POLYGAMIA FRUSTRANEA;
BARRÉN FLORETS.

1066. CENTAU'REA. *Recept.* bristly. *Feather* hairy.
Blofs. of the circumference
tubular.

Order IV.

POLYGAMIA NECESSARIA;
NECESSARY POINTALS.

1079. FILA'GO. *Recept.* naked. *Feather* o. *Florets*
with Pointals among the scales
of the cup.
† *Erigeron.* [*Tuffilago Farfara. ST.*]

Order VI.

MONOGAMIA; FLOWERS SIMPLE.

1090. JASIO'NE. *Cup* common. *Blofs.* 5 petals; re-
gular. *Capsf.* beneath; 2 cells.
1091. LOBE'LIA. *Cup* with 5 teeth. *Blofs.* 1 petal;
irregular. *Capsf.* beneath; 2
cells.
1092. VI'OLA. *Cup* 5 leaves. *Blofs.* 5 petals; ir-
regular. *Capsf.* superior; 3
valves.
1093. IMPA'TIENS. *Cup* 2 leaves. *Blofs.* 5 petals; ir-
regular. *Capsf.* superior; 5
valves.

† *Solanum Dulcamara.*

Order

Order I.

POLYGAMIA ÆQUALIS.

CHIVES and POINTALS EQUAL.

984. TRAGOPO'GON. Goats-beard.

EMPAL. *common*, simple; leaves 8; spear-shaped; equal; every other standing more inwards; all united at the base.

BLOSS. *compound*, tiled; uniform. *Florets* with chives and pointals numerous; the outer rather longer.

Individuals; petal 1; narrow; lopped; with 5 teeth.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a cylinder.

POINT *Seed-bud* oblong. *Shaft* thread-shaped; as long as the chives. *Summits* 2; rolled back.

S. VESS. none; the cup closing; tapering; as long as the seeds; a little distended.

SEEDS solitary; oblong; tapering towards each end; angular; rough; terminated by a long awl-shaped pillar supporting the *Feather*, which is downy and flat; with about 32 spokes.

RECEPT. naked; flat; rough.

ESS. CHAR. *Receptacle* naked. *Empalement* simple. *Feather* downy.

OBS. In some species the seeds are straight, and the cup longer than the blossoms; in others, the seeds crooked, and the cup shorter than the blossoms.

TRAGOPO'GON *pratensis*. Empalements as long yellow as the rays of the blossom. Leaves entire, quite straight. LINN.—*When the blossom is first expanded the empalement is as long as the outer florets, but these increasing in length it is afterwards found shorter.* JACQ. vind. 138.

Ludw. 49.—Lonic. i. 95. 4.—Fuchs. 821, cop. in J. R. ii. 1059.

1, and imitated in Trag. 280.—Dod. 256. 2, repr. in Lob. obs.

297. 2, ic. i. 550. 2, and Ger. em. 735. 2, and cop. in Pet. 15.

6.—H. ox. vii. row 1. 1, leaves of the empalement exceeding the

blossom.—Matth. 537, cop. in Ger. 595. 2.

SYNGENESIA POLYGAMIA ÆQUALIS.

Blossoms yellow, expanding about 3 in the morning, and closing between 9 and 10, LINN.—unless the sky is cloudy. RELHAN.—*Stems* cylindrical, smooth, scored. *Leaves* embracing the stem, broad at the base, suddenly tapering to a long point, grass-like, keeled, waved at the edges. *Empal.* segments pointed, smooth, in specimens gathered in Huntingdonshire always exactly equal with the blossom, in Norfolk invariably exceeding the blossom. The stems of the latter much shorter. Are they not distinct species? Mr. WOODWARD.—Whole *plant* smooth, stiff, strong, upright. *Leaves* very long and narrow, tapering. *Empal.* leaves purplish at the edge. *Tips* purple. *Dust* yellow. *Seeds* crooked. *Recept.* the glandular substances in the little hollows at the base of each floret, which, when the blossoms fall, turn brown, the receptacle remaining white. WITH.

Yellow Goats-beard. Go to Bed at Noon.

Meadows and pastures.

B. June.

Before the stems shoot up, the roots, boiled like Asparagus, have the same flavour, and are nearly as nutritious.

Gows, Sheep, and Horses eat it. Swine devour it greedily. Goats are not fond of it.

purple TRAGOPO'GON *porrifolium*. Empalements longer than the rays of the blossom. Leaves entire, quite straight. Fruit-stalks thickening upwards. LINN.—Florets very narrow, lopped. MURR.

Fl. dan. 797, leaves of the empalement too narrow.—*Ger.* 595. 1, ill cop. in *Park. par.* 511. 8.—*Matth.* 538.—*Dod.* 256. 1, repr. in *Lob. obs.* 297. 1; *ic.* i. 550. 1, *Ger. em.* 735. 1, and cop. in *Park.* 412, and *Pet.* 15. 7 and 8.—*H. ox.* vii. 9. 5.

Stems cylindrical, smooth, scored. *Leaves* embracing the stem, broad at the base, tapering, those of the stem shorter than in *T. pratense*, scarcely longer than the space between the joints. *Empal.* leaves pointed, about 1-3d longer than the blossom. *Bloss.* purple. Mr. WOODWARD.

Salsify.—Meadows and pastures. In Cornwall, and fields about Carlisle and Rose-Castle, Cumberl. Marshes near Long-Reach, below Woolwich, and meadows near Edmonton. [In upland pastures not unfrequent. Mr. WOODWARD.] B. May.

The roots are esculent, and when cultivated in gardens are called Salsafie.

986. P I' C R I S. Ox-tongue.

EMPAL. common, double; the outer large; with 5 heart-shaped, flat, flexible, approaching leaves; the inner tiled; egg-shaped.

BLOSS. compound, tiled; uniform. Florets with chives and pointals; numerous.

Individuals; petal 1; narrow; strap-shaped; lopped; with 5 teeth.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seed-bud* nearly egg-shaped. *Shaft* as long as the chives. *Summits* 2; reflected.

S. VESS. none. The *Cup* unchanged contains the seeds.

SEEDS solitary; distended; blunt; furrowed transversely. *Feather* downy.

RECEPT. naked.

ESS. CHAR. *Receptacle* naked. *Empalement* with an outer cup. *Feather* downy. *Seeds* transversely furrowed. LINN. *Empalement* double; the outer very large, of 5 leaves, the inner tiled. *Feather* on a foot-stalk. HUDS.

P I' C R I S *echioi'des*. Outer empalement of 5 leaves, common larger than the inner; the inner awned.—

Curt. iii. 25.—Pet. 12. 12.—Ger. 655. 2.—J. B. ii. 1029. 1.—

Lob. ic. i. 577. 2, repr. in Ger. em. 798. 2, and cop. in H. ox. vii. 5. 38.

Leaves undivided, embracing the stem. *Outer empal.* leaves somewhat heart-shaped, thorny; *inner* with 8 angles; leaves 8, keeled, with awns from below the point, on the outside as many small smooth leaves. *Flowers* expand at 7 in the morning. LINN.—*Root-leaves* oval, scolloped, stiff, with numerous warty protuberances, which, as also the ribs and edges, set with short thorn-like hairs. *Stem* firm, cylindrical, scored, usually purplish, much branched; with scattered, stiff, thorn-like hairs. *Leaves* heart-spear-shaped, waved at the edge, set with sharp stiff hairs, particularly on the edge and mid-rib. *Flowers* single, on fruit-stalks. *Fruit-stalks* somewhat thickening upwards. *Empal.* leaves of the outer heart-shaped, taper-pointed, ending in a sharp awn, very much expanding, fringed with stiff hairs; scales of the inner fringed on the back. *Feather* of the length of the inner empalement, on a foot-stalk 3 or 4 lines long. *Seeds* shining, very beautiful when viewed with a glass.

glafs. Mr. WOODWARD.—The fmaller hairs of the *ftem-leaves* and *fruit-ftalks* terminated by many pointed hooks, (glochides) the hooks 2 to 4, bent downwards. ST.—*Bloffoms* yellow, expanding at 4 or 5 in the morning, and never clofing before noon; fometimes they remain open till 9 at night.

Lang de boeuf.

Borders of corn fields.

A. July. Aug.

This is an agreeable pot-herb when young. The juice is milky, but not too acrid.

Hawkweed

PI'CRIS *Hieracioi'des*. Empalements loofe. Leaves entire. Fruit-ftalks fcaly up to the empalement.—

Ger. 234. 8, imitated in Ger. em. 298. 7.—J. B. ii. 1029. 2.—

(In Ger. 222. 2, the empalements are clofely tiled.)

Leaves fpear-shaped. *Fruit-ftalks* with fcattered awl-shaped fcales up to the empalement, till the empalement becomes nearly tiled. *Feather* fcarcely downy. LINN.—*Stem* firm, fcored, rough with ftiff hairs. *Leaves* rough, the *lower* on leaf-ftalks, the *upper* fitting, fpear-shaped, pointed, toothed; the *uppermoft* ftrap-fpear-shaped. *Fruit-ftalks* branched, each branch bearing 1 flower. *Empalement* fcarcely to be called double, the loofe fcales on the top of the fruit-ftalk approaching to and at length tiled with the empal. the leaves of the inner row nearly ftrap-shaped, parallel, hairy on the outfide, exactly the length of the feather. *Feather* fitting, thinly downy. *Seeds* longitudinally and tranfverfely furrowed. Mr. WOODWARD.—*Stem* ftiff. *Branches* fhorter than the ftem. *Leaves* waved at the edge, the lower fcolloped and toothed, the upper toothed. *Empal.* the *outer* as fhort again as the inner; leaves about 13, ftrap-shaped; the *inner*, leaves about the fame number, ftrap-shaped, approaching. *Hairs* of the whole plant moftly terminated by many pointed hooks; (glochides) the hooks bowed down, or expanding, moftly 2. ST.

Hedypnois Hieracioides. HUDS.

Yellow Succory.

Borders of corn fields in a calcareous foil.

A. July.

987. SON'CHUS. Sowthistle.

EMPAL. *common*, distended and hunched; with many strap-shaped, unequal scales.

BLOSS. *compound*, tiled; uniform. *Florets* with chives and pointals; numerous; equal.

Individuals; petal 1; narrow; lopped; with 5 teeth.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seed-bud* somewhat egg-shaped. *Shaft* thread-shaped; as long as the chives. *Summits* 2; reflected.

S. VESS. none; the *cup* closing forms a compressed globe, but tapering.

SEEDS solitary; rather long. *Feather* hairy.

RECEPT. naked.

ESS. CHAR. *Receptacle* naked. *Empalement* tiled; bellying. *Feather* hairy.

SON'CHUS *palustris*. Fruit-stalks and empal. *marsh* rough with hair, in a sort of rundle. Leaves notched, arrow-shaped at the base. LINN. *sp. pl.* ST.—*Instead of arrow-shaped is awned in the 3 last editions of Syst. veg.* ST.

Curt. v. 51.—*Fl. dan.* 606.—*Pet.* 14. 7.—*Clus.* ii. 147. 3, repr. in *Ger. em.* 294. 9, and cop. in *Park.* 808. 2, and *H. ox.* vi. 9. row 3. 11.

In habit it is very distinct from *S. arvensis*, but its structure is so much the same, that one might suppose the *S. palustris* to have originated from *arvensis*. Flowers clustered, expand at 6 or 7, and close at 2 in the afternoon. LINN.—*Root* not creeping. *Stems* several, 6 to 10 feet high. *Hairs* terminated by globules. CURT.—*Root* when old forming a large stool. *Stems* 4 to 8 feet high. *Lower stem-leaves* very large; upper arrow-shaped and embracing the stem at the base, segments spear-shaped, variously curved, 2 or 3 pair, with a terminating one very long, smooth, finely toothed at the edge, the principal rib running near the inner edge; the *upper-leaves* arrow-spear-shaped, lengthened out into a long point. *Floral-leaves* awl-shaped. *Flowers* much smaller than in *S. arvensis*. *Empalement* hairy; but hairs not so long nor yellow as in *S. arvensis*, terminated by globules. Mr. WOODW.—*Bloss.* yellow.

Watery places and banks of rivers; on those of the Thames about Greenwich, Blackwall, and Poplar.

P. July. Aug

SON'CHUS

corn SON'CHUS *arven'sis*. Fruit-stalks and empalements rough with hair, in a sort of rundle. Leaves notched, heart-shaped at the base.—

Curt. iv. 45.—Pet. 14. 6.—Fuchf. 319, cop. in J. B. ii. 1018. 1, Lob. obs. 119. 3, ic. i. 237. 1, H. ox. vii. 6. 12, and Lonic. 92. 1.—Matth. 765.—Ger. 231. 7, repr. in Ger. em. 294. 8, and cop. in Park. 808. 3.—(Fl. dan. 606, is *S. palustris*.)

Flowers expand between 6 and 7, and close between 11 and 12 in the forenoon. LINN.—Root creeping far and wide. Fruit-stalks and empalements with long yellow hairs terminated by globules. CURT. ST.—Leaves embracing the stem; segments triangular, toothed; teeth sharper and more thorny than those of *S. palustris*; the upper spear-shaped, but not tapering out to so great a length. Flowers in a sort of rundle. Fruit-stalks longer. Hairs of the fruit-stalks and empalements yellow, terminated by globules, more numerous and longer than in *S. palustris*. Empal. leaves more pointed. Seeds oval, compressed, longitudinally and transversely furrowed. Feather fitting. Mr. WOODWARD.—Stems rough with glandular bristly hairs. Leaves embracing the stem, perfectly smooth, except at the edges, which are almost thorny. Hairs of the empalements and fruit-stalks pale green, terminated by yellow globules. WITH.

Tree Sowthistle.

Corn fields and ditch banks.

P. Aug.

The flowers follow the course of the sun, very regularly.

Cows and Goats eat it. Horses are very fond of it.

common SON'CHUS *olera'ceus*. Fruit-stalks cottony. Empal. smooth.—

Leaves closely embracing the stem. Fruit-stalks at length become smooth. LINN.—Upper-leaves frequently jagged and indented, like by the lower, but not so deeply. Mr. WOODWARD.

Sowthistle. Hare's Lettuce. Milkweed.

α laevis. LINN. Leaves smooth, the lower with winged clefts, the lower segments long. WITH.

Curt. ii. 21.—Ger. 231. 5.—Clus. ii. 146. 1, repr. in Dod. 643.

1, Lob. obs. 119. 1, ic. i. 235. 2, Ger. em. 292. 3, and cop. in

H. ox. vii. 3. 1.—Pet. 14. 10.—Ger. 230. 4.—Matth. 497.

Cultivated ground, especially in a rich soil, dung-hills, [and also in hedges. ST.]

A. June. Aug.

[Blossoms about the middle of June, continuing till destroyed by the frosts. ST.]

β Segments fewer, RAY—and the terminating one triangular and very broad. ST.

Fl.

Fl. dan. 682.—*Blackw.* 130.—*Ger.* 230. 3, *cop. in Ger. em.* 292. 4, *Park.* 806. 3, *J. B. ii.* 1016. 1, *H. ox.* vii. 3. row 1. 2, and *Pet.* 14. 8.—*Matth.* 496, *S. aspera*.

Sonchus lœvis minor paucioribus laciniis. *R. syn.* 163. (ST.)

With α . RAY. ST.—[Flowers at the same time as α . ST.]

γ *asper.* LINN.—Leaves prickly, jagged. RAY. ST.—Leaves shining on the upper surface, the edge waved and set with thorny teeth; the lower lobes rounded. WITH.

Fl. dan. 843.—*Blackw.* 30.—*Ger.* 229. 2, *imitated in Park.* 229.

2.—*Fuchf.* 675, *improved in J. B. ii.* 1016. 2.—*Pet.* 14. 5.

Stem 2 to 3 feet high, upright, thick, angular; the angles thin, skinny, tinged with purple. Leaves with winged clefts; segments variously jagged and toothed, some extending almost to the mid-rib, the lower-leaves a foot long; mid-rib broad, white, and smooth. Fruit-stalks soon losing their cotton. *Empal.* scales each with 2 or 3 little thorns on the back. WITH.

Sonchus asper laciniatus. *R. syn.* 163.—*Sonchus asperior.* *GER. em.* 291, *descr.* (ST.)

[Uncultivated ground, sides of roads and hedges.

May, about the latter end. ST.]

δ LINN.—Leaves prickly, entire. ST.

Fuchf. 674.—*Dod.* 643. 3, *repr. in Lob. obs.* 118. 3, *ic. i.* 235. 1, *Ger. em.* 291. 2, and *cop. in J. B. ii.* 1014. 2, *Park.* 803. 1, *H. ox.* vii. 2. row 3. 5, and *Pet.* 14. 4.—*Lonic.* i. 93. 1.—*Dod.* 643. 2, *repr. in Lob. obs.* 118. 2, *ic. i.* 234. 2, and *Ger. em.* 291. 1.—*H. ox.* vii. 2. 8.

Fields, and in woods where the underwood has been cleared.

July to Nov. 20. No other variety growing near it.

A Horse eat it. ST.

Sonchus asper non laciniatus. *R. syn.* 163.—*Sonchus asper.* *GER. em.* 291.—*Sonchus asper major non laciniatus.* *PARK.* 803. (ST.)

ζ HUDS. Leaves inversely egg-shaped, tapering below into leaf-stalks.

Pluk. 61. 5, *cop. in Pet.* 14. 1.

Corn fields about London.

6. Leaves strap-oblong, rounded at the end.

Pluk. 62. 4, *cop. in Pet.* 14. 3.

The leaves are good amongst other pot-herbs. They are a very favourite food with Hares and Rabbits.

Sheep, Goats, and Swine eat it. Horses are not fond of it.

The *Aphis Sonchi* lives upon it.

SON'CHUS *alpinus*. Fruit-stalks scaly. Flowers blue-flowered in bunches. Leaves notched.—

Fl.

Fl. dan. 182.—*Clus.* ii. 147. 1, repr. in *Ger. em.* 294. 7, and cop. in *Park.* 808. 1.—*Park.* 807. 1, cop. in *J. B.* ii. 1006.—*Ger.* 231. 6, leaves too blunt.

Stem generally 5 feet high. Flowers open at 7, and close at 12. LINN.—Bloss. sometimes white. REICH.—Foliage like that of *S. oleraceus* β. Leaves terminating; lobes arrow-shaped-triangular, angles taper-pointed. ST.—Fruit-stalks clammy. Empalement brown. Bloss. blue. BERK.

Sonchus levior austriacus III, *cæruleo flore.* CLUS. II. 147.—*Sonchus flore cæruleo.* GER. 231, and em. 294.—*Sonchus alpinus cæruleus.* PARK. 807. (ST.)

Mountainous pastures. Borders of corn fields about Willington and Howden Pans, Northumberland. WALLIS. *Northumb.* 186. A.

The Laplanders get the stems before the flowers expand; strip off the bark and eat them; but they are much improved by the addition of oil and vinegar. It communicates a bitter taste to the milk of cattle that are fed with it.—Cows, Goats, and Swine eat it. Horses and Sheep are very fond of it.

Most of the species nourish the *Aphis Sonchi*.

988. LACTU'CA. Lettuce.

EMPAL. common, tiled; somewhat cylindrical; scales many; tapering to a point.

BLOSS. compound, tiled; uniform. Florets with chives and pointals; many; equal.

Individuals; petal 1; narrow; lopped; with 4 or 5 teeth.

CHIVES. Thrcads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud somewhat egg-shaped. Shaft thread-shaped; as long as the chives. Summits 2; reflected.

S. VESS. none. Cup closing; egg-shaped; cylindrical.

SEEDS solitary; egg-shaped; taper; compressed. Feather hairy; simple. Pillar long; tapering at the bottom.

RECEPT. naked.

ESS. CHAR. Receptacle naked. Empalement tiled; cylindrical; with a membranaceous edge. Feather simple; on a foot-stalk. Seeds smooth.

mild-scented LACTU'CA *Scari'ola*. Leaves perpendicular, the keel prickly.—

Fuckf.

Fuchf. 301, *cop.* in *Dodl.* 646, which *repr.* in *Ger. em.* 309. 3, and *cop.* also in *J. B.* ii. 1003, *Pet.* 15. 3, and *H. ox.* vii. 2. 17.—*Matth.* 522.—*Lob. obs.* 118. 1, *repr.* in *ic.* i. 234.—*Park.* 814. 2.—*Barr.* 135.—*Trag.* 259.—(*Matth.* 522, from its expanding branches should seem to be *L. virofa*.)

Leaves, the lowermost also indented. *RAY*.—*Stem-leaves* constantly with deeper winged clefts than those of *L. virofa*. *Flowering branches* pointing upwards, not expanding. *Flowers* smaller. *Foot-stalk* of the *feather* much shorter. *MR. WOODW.*—*Bloss.* yellow.

On rubbish, sides of corn fields, ditch banks, and stony ground. Isle of Ely. B. Aug.

β *Huds.* but *Ray* says it grows with the former of the 2 preceding species, which is *L. virofa*, “of which it is a variety.” *SR.*

LACTUCA virofa. *Leaves* horizontal, toothed; strong-scented keel prickly.—

Collin obs. vi. *præf. p.* ix.—*J. B.* ii. 1002, *cop.* in *Pet.* 15. 2.—*H. ox.* vii. 2. 16.

Stem prickly below. *Leaves* arrow-shaped, fitting, the edge, and especially the keel, prickly. A variety of *L. Scariola* according to *M. Gerard*, and *Haller*. *LINN.*—*Leaves*, the lowermost entire, not with winged clefts. *RAY*.—*Stem* 2 to 4 feet high. *Root-leaves* oblong-wedge-shaped, toothed at the edge; *stem-leaves* arrow-shaped, embracing the stem, either entire or with winged clefts, sharply toothed; *flower-leaves* arrow-shaped, half embracing the stem, broad at the base, tapering to a sharp point, 1 at the base of each flowering branch. *Flowering branches* expanding. *Flowers* fitting, or on short fruit-stalks. *Floral-leaves* similar to the stem-leaves but smaller, 1 at the base of each fruit-stalk, and others still smaller on the fruit-stalks. *Empal.* scales unequal, spear-shaped. *Seeds* furrowed and rough. *MR. WOODWARD.*—*Bloss.* numerous, yellow, opening about 7, and closing about 10 in the forenoon. *Seeds* black.—*Wild Lettuce.*

Ditch banks. Borders of fields. [In a stone quarry at Thorp Arch, Yorkshire. *MR. WOOD.*—World's End, near Stepney, and banks of the Thames between Blackwall and Woolwich. *MR. JONES.*—Old walls in Bungay, Suff. *MR. WOODW.*] B. July. Aug.

The juice smells like opium. It is milky, acrid, and bitter. *Dr. Collin* relates 24 cases of dropsy; out of which 23 were cured by taking the extract prepared from the expressed juice, in doses from 18 grains to 3 dramt in the 24 hours. It commonly proves laxative, promotes urine and gentle sweats, and removes the thirst. It must be prepared when the plant is in flower.

2. Leaves

2. Leaves entire. ST.

Pet. 15. 1.—*Trag.* 268, cop. in *Lonic.* i. 91. 3.—*Lob. adv.* 89, repr. in *ic.* i. 241. 1, *Ger. em.* 309. 1, and cop. in *Park.* 813.

L. Scariola β HUDS.

With variety 1, but less frequent. RAY.

narrowleaved

LACTU'CA *saliz'na*. Leaves halberd-strap-shaped, fitting; the keel prickly, LINN.—not always so. SCOP. Mr. WOODWARD. ST.

Jacq. fl. iii. 250.—*Hall. jen.* 4. at p. 207.—*C. B. pr.* 68. 1, cop. in *Park.* 783. 4, *H. ox.* vii. 6. 18, and *Pet.* 15. 4.

Leaves perpendicular, nearly as in *L. Scariola*. LINN.—Leaves arrow-shaped at the base; the lower with winged clefts; segments few, alternate, strap-shaped, finely toothed, with a sharp point at the end, somewhat hooked, the terminating one long; the upper entire, strap-shaped. *Floral-leaves* arrow-shaped, broad at the base, tapering to a point. *Flowers* nearly fitting, small. Mr. WOODWARD.—*Bloss.* yellow.

Ditch banks and pastures in a chalky soil.

A. Aug.

The *Phalena Gamma*, and *Caja*; and the *Aphis Lactucæ*, live upon these species.

990. PRENAN'THES. Ivy-leaf.

EMPAL. common, double; cylindrical; smooth; the scales of the cylinder equal in number to the florets; the scales of the base few; unequal; very short.

BLOSS. compound, generally consisting of a single row of florets. Florets 5 to 8; with chives and pointals; equal; standing in a circle.

Individuals; petal 1; narrow; lopped; with 4 teeth.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seed-bud* nearly egg-shaped. *Shaft* thread-shaped; longer than the chives. *Summit* cloven; reflected.

S. VESS. none. *Cup* cylindrical; closing a little at the rim.

SEEDS solitary; heart-shaped. *Feather* hairy.

RECEPT. naked.

ESS. CHAR. *Receptacle* naked. *Empalement* with a smaller one at the base. *Feather* simple; mostly fitting. *Florets* in a single row.

OBS.

Obs. In some species the feather is supported by a pillar.

PRENAN'THES *muralis*. Florets 5. Leaves *wall* notched.—

Curt. v. 52.—*Fl. dan.* 512.—*Clus.* ii. 146. 2, repr. in *Lob. obs.* 119. 2, ic. i. 236. 1, *Ger. em.* 293. 5, and cop. in *Park.* 805. 2, *J. B.* ii. 1004, and *Pet.* 15. 5.—(*Matth.* 498, is a different plant.)

Feather simple, on a pillar, **LINN.**—on a very short foot-stalk. **CURT. Mr. WOODWARD.**—Whole plant smooth, 1 to 2 feet high. Root-leaves on long leaf-stalks, deeply notched; lower segments few, small, somewhat oval, the terminating one large, somewhat triangular, with 5 lobes, resembling the leaves of Ivy in its creeping state; stem-leaves embracing the stem, the terminating one longer and more pointed. Flowering branches sub-divided. Fruit-stalks slender, each with 1 flower. Floral-leaves spear-shaped, minute. *Empal.* the outer, scales 3, oval; the inner strap-shaped, with membranaceous edges. Seeds inversely-egg-shaped, furrowed, black. Feather of the length of the inner empalement. **Mr. WOODWARD.**—Leaves, the 2 or 3 uppermost sometimes spear-arrow-shaped. **ST.**—Leaves embracing the stem, deeply notched; segments opposite, toothed, the terminating one largest. *Empal.* outer, scales 3, spear-shaped; inner strap-shaped, generally coloured. Seeds oblong, compressed, scored. Feather on a flat circular substance, supported by a little pillar. **WITH.**

Fl. angl. ed. II. line the last, for *B. pin.* 124, read *Park.* 805. (**ST.**)

Walls and shady woods.

P. July.

Cows, Goats, and Horses eat it. Sheep are very fond of it.

2. Stem-leaves spear-arrow-shaped. **WITH. ST.**—Stems smooth, purplish. Branches from the bosom of the leaves. Stem-leaves smooth, embracing the stem, the lower toothed, the upper very entire. Floral-leaves arrow-shaped, at the sub-divisions of the fruit-stalks. *Empal.* purple; outer, scales rarely 4, spear-shaped. Blofs. yellow; florets with 5 teeth. Seed-bud heart-shaped. Feather nearly sitting, but the pillar lengthens as the seed ripens. **WITH.**

991. LEONTODON. Dandelion.

EMPAL. *common*, tiled; oblong; the *inner scales* strap-shaped; parallel; equal; the *outer* fewer, and generally reflected down to the base.

BLOSS. *compound*, tiled; uniform. *Florets* with chives and pointals numerous; the inner ones gradually shorter.

Individuals; petal 1; narrow; lopped; with 5 teeth.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seed-bud* nearly egg-shaped. *Shaft* thread-shaped; as long as the central blossoms. *Summits* 2; rolled back.

S. VESS. none. *Cup* oblong; straight.

SEEDS solitary; oblong; rough. *Feather* supported on a little pillar; downy; (fitting. ST.)

RECEPT. naked; dotted.

ESS. CHAR. *Receptacle* naked. *Empalement* tiled; with loose scales. *Feather* downy, LINN.—*simple*, on a pillar. HUDS.*—*Receptacle* naked. *Feather* downy, *sitting*. EMPALEMENT tiled. WIGGERS. ST.†

Obs. In the *L. Taraxacum* the feather is simple or hair-like, and the outer scales of the empalement bent back. In several of the other species the feather is downy or radiated, and all the scales of the empalement upright. LINN.—*Feather* in the greater part of the species fitting. REICH.

common LEONTODON *Tarax'acum*. Lower scales of the empalement bent back. Leaves notched, finely toothed, smooth.—

* Referring *L. autumnale*, *bispidum*, and *birtum*, to a genus of his own called *Hedypnois*.

† Establishing *L. Taraxacum* into a new genus, WIGG.—or rather referring it to *Crepis*, to which genus, I am persuaded, it has a more natural affinity, than to the plants with which Linnæus associated it. The *L. Taraxacum* being removed, the remaining species will form a genus allied in general habit and affinity with the *Hieraciums*, but distinguished by the *downy* feather of the seed, which corresponds exactly with the *Picris* of Haller. ST.

Curt. i. 3.—Mill. ill.—Blackw. 501.—Fl. dan. 574, stalk represented as pubescent.—Walc.—Ger. 228. 1, cop. in Dod. 636. 1, H. ox. vii. 8. row 2. 1.—Dod. 636. 1, repr. in Lob. obj. 117. 2, ic. i. 232. 2, Ger. em. 290. 1, and cop. in Park. 780. 1, and Pet. 11. 7.—Matth. 506.—Fuchf. 680, cop. in J. B. ii. 1035, and Trag. 262.—Lonic. i. 92. 2.—Blackw. 1.

Feather, see observation on the genus, LINN.—hair-like, on a long pillar. LEERS. ST. WITH.—Varies sometimes with leaves toothed, or indented backwards. HUDS.—Leaves varying from winged clefts, in a very dry situation, to nearly entire in a very moist one. Empal. scales perfectly smooth. Seeds furrowed longitudinally, sharply toothed upwards. Feather on a long pillar; rays simple. Mr. WOODWARD.—Stem somewhat cottony towards the top. CURT. ST.—Seeds flat, scored, prickly towards the top. WITH.—Bloss. yellow, expanding about 5 or 6 in the morning, and closing early in the afternoon.

Dandelion. Piss-a-bed.—Meadows, pastures, road sides, ditch banks, &c.

P. April—Sept.

Early in the spring, whilst the leaves are yet white, and hardly unfolded, they are an excellent ingredient in fallads. The French eat the roots, and the blanched leaves, with bread and butter. Children that eat it in the evening experience its diuretic effects, which is the reason that other European nations, as well as ourselves, vulgarly call it Piss-a-bed.—When a swarm of Locusts had destroyed the harvest in the Island of Minorca, many of the inhabitants subsisted upon this plant.—The expressed juice has been given, to the quantity of 4 ounces, 3 or 4 times a day; and Boerhaave had a great opinion of the utility of this and other lactescent plants in visceral obstructions.

Goats eat it. Swine devour it greedily. Sheep and Cows are not fond of it. Horses refuse it. Small Birds are fond of the seeds.

The *Phalæna Fascelina*, and the *Thrips Physapus*, feed upon it. LINN.

β Leaves narrower, fewer, more deeply cloven. Seeds reddish brown. RAY.

Pet. 11. 8.

Grows with α.

Dens leonis angustioribus foliis. PARK. 780. R. syn. 171. (ST.)

γ HUDS. is *Leontodon hispidum* β of LINN. (ST.)

δ *palustre.* HUDS. ST.—Empalement smooth, all the scales upright. Stalk hollow, with 1 flower. LYONS.

Scop. 48. at ii. p. 100.

Root-leaves oblong, broader towards the end, pointed, with teeth, smooth, mid-rib red. Empalement smooth; outer scales

egg-shaped, pointed, somewhat membranaceous at the edge; the inner strap-shaped. LYONS. ST.—*Empal.* the lowermost scales at first upright, afterwards bent back. HUDS.—*Stalks* about the length of the leaves. *Empal.* outer row upright, SCOP. ST.—egg-shaped. *Seeds* exactly similar to those of *α.* ST.

Hedypnois paludosa. SCOP. carn. n. 958.—*Leontodon Raii.* GOUAN. ill. 55.—*Leontodon Taraxacum paludosum.* LIGHTF. fl. scot. 432.—*Picris scapo unifloro, foliis glabris semipinnatis, calyce levi.* HALL. hist. n. 26. (ST.)

Hinton Moor, Cambridgeshire. LYONS.—Moist places on the sides of mountains in the Isle of Skye. LIGHTF.

OBS. The above varieties are readily distinguishable from other species by the smooth, tubular, bristly stalks. MR. WOODWARD.

autumnal LEON'TODON *autumnale.* Stem branched. Fruit-stalks scaly. Leaves spear-shaped, toothed, very entire, smooth. LINN.—*Stem* sometimes, though rarely, undivided. ST.

Fuchf. 320, cop. in *J. B.* ii. 1031, *Trag.* 265, and *Dod.* 639. 4, which repr. in *Ger. em.* 297. 3, and ill cop. in *Lonic.* i. 92. 3.—*Ger.* 233. 4.*—*Dod.* 639. 3, † repr. in *Lob. obs.* 120. 1, ic. i. 237. 2, *Ger. em.* 296. 2. and cop. in *Park.* 794. 4, and *H. ox.* vii. 7. 6.—*Matth.* 766. ‡—*Pet.* 12. 1.—(*Fl. dan.* 501, is *Crepis tectorum.*) §

Root bitten off as in *Scabiosa Succisa.* Flowers opening at 7, and closing at 3 in the afternoon. Feather with a kind of pillar, downy. *Sp. pl.* It is difficult to say under what genus it should be placed. It differs from *Scorzonera* in its sitting feather, from *Crepis* in its simple tiled empalement, and from *Leontodon* in its sitting downy feather. LINN. *fl. suec.*—Subject to the following variations: *Leaves* toothed, indented-toothed, or with winged clefts; teeth very entire. *Empal.* smooth, or hairy. *Stem* simple, or branched. HUDS. ST.—naked or scaly. HUDS.—*Stems* not leafy. MR. WOODWARD.—*Leaves*, teeth pointing, some forwards, and others backwards, so that they cannot be said to be notched. *Stem* as high again as the leaves, with a small strap-shaped leaf, with sometimes 1 or 2 teeth at each sub-division. *Fruit-stalks* thickening upwards; scales spear-shaped, keeled, laid to. *Empal.* leaves with long brown hairs on the keel. In a barren soil a span high, somewhat branched and the leaves notched; in a richer soil 2 feet high, and the

* † ‡ No scales on the fruit-stalks. ST.

§ MR. WOODWARD. ST. as is evident from the leafy stem and want of scales on the fruit-stalks. ST.

the stem a good deal branched. RETZ. ST.—Stems upright, or ascending, frequently marked here and there with purplish blotches. Leaves strap-spear-shaped, smooth, lying on the ground. Feather sitting, downy. POLLICH. ST.—Feather of the seeds of the circumference sitting, those of the centre sometimes on a short pillar, (*subspitatus*.) LEERS.—Root on the 2d or 3d year dying at the end, appearing as if bitten off. Stems sometimes thrice as tall as the leaves. Leaves spear-shaped, quite smooth; teeth bluntish. Flowering branches nearly of an equal height. Empal. inversely egg-shaped, tapering downwards, beset with tapering blackish hairs, and a small quantity of cottony down. Feather of the central florets sometimes tapering out into a kind of short pillar, downy, brownish white, which colour readily distinguishes it from *Hypochæris radicata*, which it very much resembles, and the others of the same tribe which flower in the meadows at the same time. ST.—Root thick, sending out lateral fibres. Leaves nearly strap-shaped, smooth; hairs simple. Stem and fruit-stalks slightly scored, smooth. Fruit-stalks mostly forked; the scales resembling the outer ones of the empalement. Empal. the outer scales much shorter, upright, a little hairy at the ends; the inner with a row of longish black hairs along the back. Florets yellow on both sides; the tubular part a little hairy. Shaft and summit set on the upper part with very short and exceedingly fine, white, bristly hairs. Feather about the length of the seed, rather longer than the tubular part of the blofs. the down on the hairs extremely fine. Seeds compressed, scored.

WITH.

Hedypnois autumnale. HUDS.

Yellow Devil's-bit.—Meadows and pastures. P. July. Aug. Horses, Goats, and Swine eat it. Cows and Sheep refuse it.

2. Varies with hairy leaves. RAY. ST. WITH.—Leaves sprinkled on both sides with white simple hairs. ST.

With variety 1, and with us the most common. ST.

β HUDS. Leaves with winged clefts. ST.

Ger. 233. 3, no scales on the fruit-stalks.—Pet. 12. 2, a leaf on the stem jagged.

Pastures about London.

July. Aug.

Hieracium præmorsum laciniatum. R. syn. 164.—*Hieracium nigrum*. TAB. GER. 233.—*Hieracium foliis coronopi*. C. B. pin. 128. l. 5. (ST.)

γ HUDS.—Dwarf. Leaves pointed. PET.

Pet. 12. 3.

Hedges about London.

July. Aug.

Hieracium folio acuto minus. R. syn. 164. (ST.)

δ HUDS.—Dwarf. Leaves blunt, like those of *L. Taraxacum*. PET.

Pet. 12. 4.

With variety γ .

July—Aug.

ϵ Stem with mostly 1 flower. Empalement exceedingly hairy, with black hairs. HUDS.

Hieracium Taraxaci, which see.

rough LEON'TODON *hispidum*. All the scales of the empalement upright. Leaves toothed, very entire, rough with hair; hairs forked.—

Col. ecph. i. 243, cop. in Park. 798. 8, and H. ox. vii. 7. 12. row 2. f. 3, hairiness of the stem and empalement not expressed, tho' noticed in the description.—C. B. pr. 66, referred by Linnæus and Hudson to *L. hirtum*; cop. in Park. 798. 5, H. ox. vii. 8. 13, and Pet. 11. 10.—C. B. pr. 63, referred by Linnæus and Haller to *L. hirtum*; cop. in Park. 789, leaves better than those of the last.—J. B. ii. 1038. 2, cop. in H. ox. vii. 7. 14, referred by Linnæus and Haller to *L. hirtum*.—Fl. dan. 862.—Pet. 11. 9.—J. B. ii. 1038. 1, the single head good, the whole plant cop. in H. ox. vii. 7. 13.—Lob. ic. i. 238. 2, repr. in Ger. em. 303. 6, cop. in Park. 788. 4, and H. ox. vii. 8. row 2. f. 4.—The above I give only as representations of our *L. hispidum*. I do not vouch for their being all intended as such by their respective authors.—Fl. dan. and the figures which follow, represent it in its more luxuriant, and those which precede it in its less luxuriant state.

A strap-shaped floral-leaf below the flower, which is not in *L. hirtum*. Florets of the circumference greenish on the outside. Feather fitting, downy. A plant difficult to make out, from the different synonyms referred to by different authors. Flowers open at 4 in the morning, and close at 3 in the afternoon. LINN.—Leaves on leaf-stalks, spear-shaped, somewhat hoary; hairs forked and simple. Florets of the circumference green beneath. Seeds slender, rough, striated, the upper part of the ridges toothed, the lower warty; as long as the feather. MR. WOODW. ST.—Root bitten off. Stalk 6 to 16 inches high. Leaves indented-toothed. Hairs with 2 or 3 points, or simple. Empal. with simple hairs. Feather white, with 11 large rays just longer than the seed, with as many intermediate ones. ST.—Leaves and stalks with fine, bristly, forked hairs. Empal. with long white hairs. Florets with a few hairs at the bottom of the border. Feather longer than the tube of the florets. WITH.

Heäypnois hispidum. HUDS.—*Hieracium caule aphylo hirsutum*. J. B. II. 1037. (RAY. HALL. LINN. fl. suec. ST.)—(*Leontodon hispidum* GORT. ingr. 120, not the plant, as is evident from his describing the feather as supported by a long pillar.) ST.

Meadows and pastures.

P. Junc. July.

β Leaves

β Leaves entire, with sometimes shallow teeth, spear-shaped, rough. LINN.

Clus. ii. 141. 2, repr. in Ger. em. 302. 3, and cop. in Park. 799.

12, J. B. ii. 1038, H. ox. vii. 7. 12. row 2. f. 4, and Pet.

11. 5, and imitated in Ger. 238. 3.

Near the top of y Glyder mountain near Llanberys.

Dens leonis montanus angustifolius. R. fyn. 171.—*Leontodon Taraxacum* γ HUDS.—*Hieracium incanum*, according to Reichard. (ST.)

β HUDS.—C. B. pr. 66, cop. in H. ox. vii. 8. 13, and Pet. 11.

10, referred to by Linnæus and Hudson.—C. B. pr. 63, cop. in

Park. 739, also referred to by Linnæus and Haller.—J. B. ii.

referred to by Linnæus and Haller.*

Very much resembling *L. hirtum*, but distinct. Fruit-stalks and empalements not so hairy, nearly smooth. Leaves stiffish, and as it were dry to the touch, and the central parts very much curled when dry; segments slanting; the hairs undivided at the point. Empal. nodding before flowering, channelled when the seeds are ripe; the outermost scales dilated on each side at the base, with a fold between. Blofs. the florets of the circumference yellow underneath, and not greenish. LINN.—Stem 6 inches high. Seeds of the circumference crowned with a shallow leafy ornament, instead of a feather; those of the centre with a downy feather. HALL.—Plant very much like *L. hispidum*, but differs as follows: Root bitten off. Leaves yellowish green, longer and more crowded, when dried waved and crumpled; hairs mostly simple, but if examined with a glass some will be found to be cloven at the point; teeth shorter, slanting upwards, not downwards as in *L. hispidum*. Stalk smooth, not so obviously scored, without any floral-leaf. Flower smaller. Empalement smooth, except a few hairs at the base; scales 13, spear-shaped, flattish, with as many very small ones on the outside, dilated at the base, and laid to. Blossoms of the circumference equal in number to the scales of the empalement, livid underneath, and at length yellow; the summits not projecting beyond the tips; and the seeds thickish, whitish, scarcely rough, crowned. Blossoms of the centre as small again; the summits rolled back; the seeds slender, brownish, rough; the feather sitting, but in the innermost on a very short pillar; rays 13, spear-shaped at the base; downy outwards, as many placed alternately shorter and simple. LEERS.—Leaves almost with winged clefts, green, not hoary; hairs sometimes forked. Florets scarcely green on the back. Seeds shorter than the feather. Mr. WOODWARD.—If the plant thus described by Haller and Leers be the *L. hirtum* of Linnæus, I have not seen

* Fl. dan. 862.—H. ox. vii. 8, row 2. f. 4. Mr. WOODWARD.

it, and am inclined to believe that Mr. Hudfon's plant is only a variety of *L. hispidum* with simple hairs. ST.

Hedynois hispidum hirtum β HUDS.—*Leontodon hirtum* LINN. according to Mr. Hudfon. (ST.)

992. HIERA'C IUM. Hawk-weed.

EMPAL. *common*, tiled; cylindrical; *scales* many; strap-shaped; very unequal; lying lengthways one over another.

BLOSS. *compound*, tiled; uniform. *Florets* with chives and pointals; numerous; equal.

Individuals; petal 1; narrow; lopped; with 5 teeth.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seed-bud* nearly egg-shaped. *Shaft* thread-shaped; as long as the chives. *Summits* 2; bent back.

S. VESS. none. *Cup* closing; egg-shaped.

SEEDS solitary; with 4 blunt edges; short. *Feather* hairy.

RECEPT. naked.

ESS. CHAR. *Receptacle* naked. *Empalement* tiled; egg-shaped. *Feather* simple; sitting.

* *Stalk* naked; supporting a single flower.

Mountain HIERA'C IUM *alpi'num*. Leaves oblong, entire, toothed. Stalk almost naked, with a single flower. Empalement hairy.—

Lightf. 18. at p. 434.—*Col.* ii. 30. 1, cop. in *H. ox.* vii. 7. 5, and *Pet.* 11. 2.—*Ray* 6. 2. at p. 168.—(*Fl. dan.* 27, is referred to in the *syft. veg. and fl. angl.* but omitted, and it should seem very properly, by Mr. *Lightfoot*.—*Jacq. fl.* ii. 191, is *H. alpestre*.)

Leaves egg-oblong, slightly toothed, sprinkled on both sides with white expanding hairs. *Stalk* thick, sprinkled with white hairs brown at the base. *Floral-leaves* small, 1 or 2 on the upper part of the stalk. *Empalement* swollen, with numerous white projecting hairs. *Bloss.* yellow. LINN.—*Empalement* concealed as it were by its hairs. MURR.

Mountains near the summits in dry soil. Rocks on Glyder and Trigfylchau near Llanberys, on Ben Croochid and near Loch Awe, and many other of the Highland mountains. Llyn y Cwyn near Snowdon. PENN.

P. July. Aug.

HIERA'-

HIERA'CIUM *Tarax'aci*. Leaves spear-shaped, Devil's-bit toothed, smooth. Stalk almost naked, with 1 flower. Empalement hairy.—

Doubtful whether a hybrid plant, or a new species. The leaves are so much like those of *L. autumnale*, and the stalk and flowers so exactly like those of *Hieracium alpinum*, that if the stalk and flower of the latter were added to the leaves of the former, you would have a fair specimen of the plant in question. Leaves, teeth, some shorter, others longish, often bent forwards. Stalk with the minute rudiments of leaves, hairy, thickening towards the flower, swelling at the end like the empalement, with brown hairs. Entirely different from *L. aureum*, the empalement being very much tiled, which can hardly be said of *L. aureum* or *autumnale*. LINN.—Empalement exceedingly hairy, HALL.—swoln and concealed as it were by the hairs. MURR.—Feather fitting, downy. LIGHTF.

Hedynois autumnale Taraxaci HUDS. which see.

Sides of mountains in wet ground, but not common, in Wales. Ben-na-Caillich mountain in the Isle of Skye. P. July.

HIERA'CIUM *Pilosell'a*. Leaves very entire, egg-shaped, cottony underneath. Suckers creeping. Stalk with 1 flower.—

Curt. iv. 47.—Lindw. 144.—Walc.—Blackw. 365.—Fuchf. 605, cop. in Trag. 278, Lonic. i. 95. 3, and J. B. ii. 1039.—Park. 690. 2, cop. in H. ox. vii. 8. 3, and Pet. 11. 1.—Dod. 67, repr. in Lob. 254. 1; ic. i. 479. 1, Ger. em. 638. 2, and cop. in Park. 690. 1, H. ox. vii. 8. row 1. f. 1, and also in Ger. 513. 2.

Bloss. red on the outside, opening at 8 in the morning, and closing about 2 in the afternoon. LINN.—Leaves concave, with scattered long hairs arising from glands, white underneath with a thick close cotton. Suckers covered with cotton, and beset with hairs, lying close to the ground, not throwing out flowering stems in the autumn, as *H. dubium* and *H. Auricula*. Florets with a broad purple stripe on the under side. Mr. WOODWARD.—Empal. hairs terminated by black globular substances. WITH.—Bloss. pale yellow within. Empalement thick set with black hairs.

Creeping Mouse-ear.

Very dry meadows and pastures, and walls. P. May—Sept.

This differs from the other lactescent plants, being less bitter, and more astringent.—It is esteemed hurtful to Sheep.—An insect of the Cochineal genus (*Coccus polonicus*) is often found at the roots. Aët. Upsal 1752.—Goats eat it. Sheep are not fond of it. Horses and Cows refuse it.

* * Stalk

** Stalk naked, supporting several flowers.

creeping **HIERA'C IUM** *du'bium*. Leaves entire, egg-oblong. Suckers creeping. Stalk naked, with many flowers.—

Stem rough with hair. *Leaves* rough with hair, especially underneath. Larger than *H. Auricula* in all its parts. Occurs but rarely, possibly a mongrel production, or a variety of some species or other. LINN.—Has many things in common with the *H. Pilosella*, but larger, and the leaves hairy underneath, but not cottony. *Stalk* with 3 to 6 flowers, 6 to 9 inches high, smooth. HUDS.—*Leaves* inversely-egg-oblong, tapering downwards, green on both sides, above set more or less with long scattered hairs. *St.*—*Leaves* oblong-egg-shaped, longer and narrower than in *H. Pilosella*, very slightly concave, hairy on both sides, but more sparingly than in *H. Pilosella*, green above; greyish, but not cottony underneath. *Stalks* upright, nearly smooth below, with mostly 2 flowers, rarely 1. *Pedicles* equal, straddling, which, as also the *empalements*, clothed with hairs terminated by black globules. *Florets* pale yellow on both sides. *Seeds* oval, scored; *feather* fitting, as long as the *empalement*. Such were the appearances in June and July, but in autumn as follows: *Suckers* throwing out branches, and terminated by a flowering stem. *Branches* not rooting, with alternate leafy branches. *Stem* drooping at the base, with 5 and 6 flowers. *Fruit-stalks* alternate. *Floral-leaves* spear-shaped, 1 at the base of each flower, and similar ones on the fruit-stalks. Cultivated some years in my garden. The roots received from the North of England for *H. dubium*. It approaches nearest to that species, and is, I apprehend, that plant, tho' somewhat varied. MR. WOODWARD.

Moistish mountainous situations. Fairfield mountain near Rydall, Westmoreland.

P. July. Aug.

Sheep eat it.

narrowleaved **HIERA'C IUM** *Auricula*. Leaves very entire, spear-shaped. Suckers creeping. Stalk naked, with many flowers.—

Ger. 514. 3, is the figure referred to by C. B. under the plant cited by Linnæus.—(Col. ecphr. i. 249. 2, is referred to by Haller and Hudson, but Linnæus does not cite that or any other figure. Add to this, that Columna's plant is described and figured with 3 leaves on the stem, has a branched panicle of flowers, and is in all respects more like *H. cymosum*.)

Leaves

Leaves pointed, rough with very small hairs. *Stem* and *empalements* beset with black bristles. Being planted in a garden it rose the next year to 3 feet high, with flowers in a kind of rundle on long fruit-stalks. LINN.—*Root* bitten off, with numerous simple fibres. *Suckers* leafy. *Stalk* upright, scarcely 6 inches high, somewhat hairy, hairs scattered. *Leaves* mostly very entire, pointed, naked. *Flowers* in a panicle, 3 to 6, yellow. *Empal.* leaves strap-shaped, hairy. HUDS.—Is hardly sufficiently distinct from *H. dubium*. HALL.

On mountains. On Dalehead not far from Grays-mere, Westmoreland.

P. July.

Sheep eat it. Cows refuse it.

*** *Stem* leafy.

HIERA'CIIUM *muro'rum*. *Stem* branched. *Root-leaves* egg-shaped, toothed. One leaf on the stem, smaller. LINN.—*Stem* sometimes undivided. *Stem-leaves* sometimes several. ST.

α pilosissimum.

Ger. em. 304, imitated in *H. ox.* vii. 5. 54, and *Pet.* 13. 2.—*Trag.*

276.—*Munt.* 233, *leaves* too taper pointed.

Root simple. *Stem* single, a foot high, thread-like, not very strong, beset with hairs, with a single branch, sometimes none. *Root-leaves* on leaf-stalks, somewhat toothed, beset with scattered hairs; *stem-leaves* 1 or 2, on the lower part of the stem, on leaf-stalks, pointed, toothed, reddish underneath. *Flowers* few, opening about 6 in the morning, and closing at 2 in the afternoon. LINN.—*Root-leaves* varying considerably in shape, mostly oval-spear-shaped, narrowing towards the leaf-stalk, and with a few large teeth towards the base, very entire upwards, hairy on both sides, and especially the mid-rib and leaf-stalk; sometimes spotted with large reddish spots. *Stem* cylindrical, solid, firm, slightly scored, reddish towards the base, hairy, sometimes naked, or nearly so, sometimes clothed with leaves, similar to but smaller than the root-leaves. *Flowers* in a branched panicle. *Floral-leaves* awl-shaped, 1 to each fruit-stalk. *Empal.* scales strap-spear-shaped, the lower spreading. *Bloss.* yellow. *Seeds* nearly cylindrical, furrowed, smooth, dark purple, as long as the feather; rays as long as the empalement. MR. WOODWARD.—*Stem* cylindrical, about 15 inches high, set with soft hairs, branching at the top into about 4 fruit-stalks. *Stem-leaves* 2 or 3. *Fruit-stalks* and *empalements* covered with black bristles, terminated by minute globules. *Bloss.* the outer florets with yellow hairs at the bottom of the borders.

WITH,

French

French Lungwort. Golden Lungwort.

Woods, old walls, shady banks, and balks of corn fields. P. July.

β sylvaticum. LINN.—Root-leaves narrower, and more slightly toothed. Stem-leaves several. ST.

Pet. 13. 4.—*Lob. obs.* 317. 2, repr. in *ic.* i. 587. 1, *Ger. em.* 304. 2, and cop. in *Park.* 801. f. 2, and *Pet.* 13. 5.—*J. B.* ii. 1034. 3.

Old Roman Camp at Sidmonton near Newberry. On the side of the Lake Lhyn-y-Cwin. RAY.

Hieracium murorum laciniatum minus pilosum. C. B. pin. 129.—*Hieracium sylvaticum* GOUAN. ill. 56, RETZ. obs. i. n. 90.—

Hieracium murorum HUDS. *β, ε.* (ST.)

γ Leaves narrow. Rocks by the rivulet between Shap and Anna Well, Westmoreland. RAY.

Hieracium murorum δ HUDS.

δ Leaves roundish-egg-shaped. ST.

Barr. 342.

Root thick, woody, running deep amongst the loose stones, terminating in long dark brown fibres of the thickness of pack-thread. Leaves oval, blunt, obscurely toothed, with a few hairs on the upper, and many on the under surface, spotted with numerous dark red large irregular spots. Leaf-stalks long, hairy. Stem 6 inches high, naked, with 1 flower on the summit, and 2 imperfect ones sitting a small way from it, hairy above, slightly so below. Floral-leaves awl-shaped, 2 beneath the lowest of the flowers. MR. WOODWARD.

Hieracium murorum γ HUDS.—*Hieracium* HALL. n. 46. *ε.* (ST.)

Gordale near Malham, Yorkshire. Buckbarrow Well Longfledale, Westmoreland. RAY.—King's Park, Edinburgh. MR. NEWTON in *R. syn.*—[In the crevices of the columnar basalt on the side of Arthur's Seat. ST.—On Conzick Scar near Kendal. MR. WOODWARD.]

β HALL. Leaves with longish teeth, the lowermost of which are bent back. HALL. ST.

J. B. ii. 1034. 1, cop. in *Pet.* 13. 3, a single leaf cop. in *H. ox.* vii. 5. 54.—*Blackw.* 530.

Westmoreland. PET.

Pilosellæ majoris sive Pulmonariæ luteæ species magis laciniata. J. B. II. p. 1034. (ST.)

6. With 1 flower on a stem. LIGHTF.

Pet. 11. 4.

HIERA'CIUM *paludo'sum*. Stem panicled. Leaves *marsh* embracing the stem, toothed, smooth. Empalements rough with hair.—

Ger. 236, *cop. in Ger. em.* 300, and *J. B.* ii. 1033. 1.—*J. B.* ii. 1026. 3, *cop. in H. ox.* vii. 5. 47.—(*Gmel.* ii. 9, is *H. lyratum*.—*ib.* 25, a wrong reference.—*Pet.* 13. 9, is *H. sabaudum* β *Hudson*.)

Empalement with black expanding hairs. Flowers open at 6 in the morning, and close at 5 in the afternoon. Possibly only a var. of *H. murorum*, though it has acquired, from its place of growth, so very different an appearance. **LINN.**—Stem 1 to 2 feet high, hollow, in which it differs from *H. murorum*, furrowed, smooth, generally bright purple at the base. Leaves smooth, alternate, the lower on leaf-stalks, oval-spear-shaped; the upper spear-shaped, deeply toothed towards the base, entire at the summit; the uppermost very entire. Leaf-stalks and mid-ribs of the leaves sometimes purple, especially underneath. Fruit-stalks smooth. Flowers solitary, smaller than in *H. murorum*. Empal. scales strap-spear-shaped, with numerous black hairs on the back. **MR. WOODWARD.**

Moist meadows and woods, and sides of rivulets in the mountainous parts of Craven, Yorkshire, and sides of rivers, both in the Lowlands and Highlands. [Hardrow Force in Wensleydale, Yorkshire. **MR. WOOD.**—On the west side of the river just below the bridge at Kirby Lonsdale, Westmoreland. **DR. J. E. SMITH.** Near Rydal, Westmoreland. **MESS. CROWE and WOODWARD.**—At the Hermitage near Teymouth. **ST.]** B. July.

HIERA'CIUM *sabau'dum*. Stem upright, with *shrubby* many flowers. Leaves egg-spear-shaped, toothed, half embracing the stem.—

Fl. dan. 872, only 1 upper stem-leaf; the best general representation of the panicle, but the scurvy empalements, and the 3 terminating fruit-stalks would induce one to believe it to be the *H. umbellatum*, were it not for the reduced figure, which is clearly *H. sabaudum*.—*Pet.* 13. 7.—*Gmel.* ii. 14. 2, with very entire leaves.—*J. B.* ii. 1030. 3.—*H. ox.* vii. 5. 59.

Receptacle in this and *H. umbellatum* naked, but rougher than in the other species. **LINN.**—Stem sometimes branched from half or 2-3rds of the way up; the uppermost branches often springing from one point in manner of a rundle, those below alternate. Leaves heart-spear-shaped, and, when the stem is hairy, beset with long hairs along the edges and underneath. Fruit-stalks with 1, and sometimes 2 and 3 flowers. **Gmel. ST.**—Fruit-stalks cottony. Empalement slightly hairy, or smooth. **HALL. ST.**—Stem most hairy towards

towards the base, smooth towards the top. *Leaves*, the teeth few, pointed, pointing forwards. *Empal.* scales downy on the back, or smooth. **POLLICH. ST.**—More distinguishable from *H. umbellatum* by the eye than by the specific differences. In branches where the top of the stem has been bitten off the leaves often assume the figure of those of *H. umbellatum*; add to this, that the fruit-stalks are often congregated in manner of a rundle, as in *Gmel.* ii. 14. 1, and *Fl. dan.* 872. See also variety 4. **ST.**—*Stem* cylindrical, thickly set with long white hairs. *Leaves* nearly smooth above, but very hairy underneath; teeth blunt and yellowish at the end. *Empal.* some of the hairs long, and tapering to a point; others short, and ending in a globule. *Florets* a little hairy on the outside about the top of the tube. *Summits* dirty green. *Receptacle* thinly set with fine, white, taper, chaffy bristles. **WITH.**—*Flowers* opening at 7 in the morning, and closing between 1 and 2. *Bloss.* yellow.

Woods and hedges.

P. July. Aug.

Horses, Cows, Goats, Sheep, and Swine eat it.

β HUDS.—Leaves covered with a short and just perceptible down. **RAY.**

Gmel. ii. 14. 1.—*Pet.* 13. 9.

Moist shady woods. **HUDS.**—Near Hulfwater, Westmoreland **RAY.**

Hieracium fruticosum latifolium glabrum. **PARK.** 801, *R. syn.* 168
—*Hieracium frut. latif. foliis dentatis glabrum.* **C. B.** pin. 129. *H. frut. latif. glabrum.* **C. B.** pr. 67.—*H. maj. latif. pannonicum* 2 *Clusii* **J. B.** II. 1027. (**ST.**)

γ

Pluk. 37. 3, cop. in *Pet.* 11. 6.

This seems to be only a specimen in which there was but 1 flower on a stem. Such I have met with. **ST.**

On a dry bank at the edge of a wood in a lane leading from Hornhill to Rickmansworth, Hertfordshire. **RAY.**

4. Leaves broad spear-shaped, on very short leaf-stalks. **ST.**

Pet. 13. 8.

[Perry Wood, near Worcester. **ST.**]

busky **HIERACIUM umbellatum.** Leaves strap-shaped, somewhat toothed, scattered. Flowers in a sort of rundle.—

Pet. 13. 10.—*Clus.* ii. 140, repr. in *Dod.* 638. 2, *Lob. obs.* 120. 3, *ic.* i. 240. 1, *Ger. em.* 298. 5, and cop. in *Park.* 801. 4.—*J. B.* ii. 1030. 1.—*Fl. dan.* 680, reduced figure and single leaf good, but the panicle is a better representation of *H. sabaudum*, as the panicle in figure 872, intended for *H. sabaudum* is of this.—

Ger.

Ger. 234. 6.—*Habit of the above figures good, but in none are the rundle-like cluster of fruit-stalks expressed. For this see Pet. 13. 11.*

Leaves spear-strap-shaped, obscurely toothed. *Flowers*, all placed at the end of the stem. *Empalement* scurfy. LINN.—Subject to much variety in its leaves, and the mode in which it produces its flowers, which last are generally disposed in manner of a rundle, but often the stem becomes branched half way up, producing scattered flowers all the way. GMEL.—*Stem* firm, 3 feet high and upwards. *Leaves* smooth, toothed, sometimes very entire. HALL. ST.—*Leaves* sometimes egg-spear-shaped. *Empal.* points of the scales open. LEERS. ST.—*Stem* 3 feet high and upwards. *Leaves* fitting, 4 inches long, 6 or 7 lines wide. *Fruit-stalks* in bundles at the end of the stem and branches, some again dividing into 2 or 3 pedicles. *Empal.* scales smooth, the outer expanding, with the points bent back. POLLICH.—*Stem* 2 to 4 feet high, simple, cylindrical, scored, hollow, nearly smooth. *Leaves* numerous, without order, decreasing in size upwards, fitting, strap-spear-shaped, with a few pointed teeth towards the base, edges and ribs slightly hairy. *Flowers* large, yellow. *Fruit-stalks* branched, cottony. *Floral-leaves* awl-shaped, *Empal.* scales strap-spear-shaped, the outer somewhat cottony, the inner smooth. *Seeds* cylindrical, smooth, furrowed; *feather* as long as the empal. MR. WOODW. ST.—*Stem* upright, slightly zigzag, stiff, solid, downy, roughish to the touch, frequently hairy, often tinged with purplish red. *Leaves* with 2 or 3 small teeth on each margin, smoothish above, the edges beset with short hairs, underneath hairy; the lowermost spear-shaped, expanding; the upper nearly upright. *Fruit-stalks*, the 4 uppermost aggregated, frequently some of them divided, beset with 1 or 2 scales; those below alternate. *Floral-leaves*, 1 at the base of each of the lower fruit-stalks. *Empal.* at the base slightly cottony; the points of the lower scales slightly expanding. ST.

Hedges and dry shady places. [Ditchingham, Norfolk. MR. WOODWARD.—Ditch banks near Birmingham. ST.]

Horses eat it.

β HUDS.—*Leaves* smooth. DILL. in R. syn.

Pet. 13. 11.

Woods about Hampstead.

July—Aug.

Pulmonaria angustifolia glabra. R. syn. 168. (ST.)

γ HUDS. and REICH.—*Leaves* smooth, very entire, dark green, DILL. in R. syn.—truly strap-shaped. ST.

Pet. 13. 12.

About London, but not common. [Near Bungay, Suffolk, common. MR. WOODWARD.]

July. Aug.

Pulmonaria graminea. DILL. in R. syn. 168. (ST.)

993. CREPIS.

993. CRE'PIS. Hawks-beard.* (Pet.)

EMPAL. common, double.

Outer Cup very short; open; deciduous.

Inner Cup egg-shaped; simple; furrowed; permanent. Scales strap-shaped; approaching.

BLOSS. compound, tiled; uniform. Florets many; equal; with chives and pointals.

Individuals; petal 1; narrow; lopped; with 5 teeth.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud nearly egg-shaped. Shaft thread-shaped; as long as the chives. Summits 2; reflected.

S. VESS. none. Cup roundish.

SEEDS solitary; oblong. Feather sometimes standing on a pillar; hairy.

RECEPT. naked.

ESS. CHAR. Receptacle naked. Empal. with a lesser one at the base, of deciduous scales. Feather hairy; † on a pillar.

OBS. Feather fitting in some species. REICH. as in *C. tectorum* and *biennis*. ST.

sinking CRE'PIS *foetida*. Leaves between notched and winged, rough with hair. Leaf-stalks toothed.—

Dod. 641. 3, repr. in Lob. obs. 113. 1; ic. i. 226. 1, Ger. em. 279, but the centre of the blossom represented as in a radiated flower.—H. ox. vii. 4. 4.—Pet. 12. 8.—Magn. bot. 129.—(Col. ecphr. i. 242, cop. in Park. 794. 3, is thought by Ray and Morison to be distinct from our plant.—C. B. pr. 68. 2, of which I have gathered specimens in Champagne, appears to me to be var. β of Gouan, the *Hieracium* of Gmel. ii. 8. 1, and to be a distinct species.)

Unopened flowers nodding. Leaves smelling like bitter almonds, LINN.—rather like opium. RELHAN.—Empalement whitish. Feather longer than the empalement, on a pillar. Receptacle somewhat hairy. LEERS.—Feather on a long pillar. Mr. WOODWARD.

* Succory is more applicable to *Chondrilla*. ST.

† As in *gen.* and *syft. pl.* not downy as in *syft. veg.* which, as Leers observes, must be an error of the press. ST.

Dry meadows and pastures. About Cambridge. Banstead Downs, by the side of the road to Darking, Surry. Northfleet chalk-pits, Kent. Near Greenhithe. [Near Swaffham. Mr. PITCHFORD.] B. June. July.

2.

Pet. 12. 9.

Pastures about Charlton and Greenwich. DILL. in R. syn.

Hieracium Cichorei folio minus. R. syn. 165. (ST.)

CRE'PIS *Tarax'acum*. Stalk with 1 flower. ST.* *Dandelion*
Leontodon Taraxacum, which see.

OBS. Scopoli has objected to Linnæus's genus of LEONTODON, as comprehending plants with the feather of the seed both sitting and on a pillar, and the rays both downy and hairy. He has established the *L. Taraxacum*, and a variety of it, into a new genus, which he has stiled HEDYPNOIS, retaining the other species under the name of LEONTODON. Wiggers has followed his example, but, instead of HEDYPNOIS, retains, with Haller, the TARAXACUM, as a generic name. Mr. Hudfon, on the other hand, retains the *L. Taraxacum*, as constituting the genus LEONTODON, and adopting Scopoli's name of HEDYPNOIS, comprehends under it the *L. hispidum*, *hirtum*, *autumnale*, *Crepis testorum*, and *biennis*, and *Picris hieracioides*. But this is a more heterogenous assemblage than the LEONTODON of Linnæus, consisting of plants with hairy and downy feathers, and empalements both double and single. All this confusion may be avoided, by referring the *L. Taraxacum* to the CREPIS, with which it has a natural affinity, in habit as well as structure. It agrees in the double empalement, and the hairy feather, the essential characteristics of that genus, and with the majority of the species in having a feather on a pillar; and in its foliage it is much more closely allied to the *Crepis testorum*, than to any of the *Leontodons*. I am inclined to believe that Linnæus would have arranged this plant, and the *Crepis testorum*, under the same genus, had he not been led into a different train by Tournefort, whose genus of DENS LEONIS, very properly divided into 2 by the accurate Vaillant, he restored under the coined name of LEONTODON. ST.

CRE'PIS *testo'rum*. Leaves spear-shaped-notched, smooth sitting, smooth; the lower ones toothed.—

* Scapo unifloro. ST.

Walc.—*Fl. dan.* 501.*—*Pet.* 12. 6.—*Gmel.* ii. 6.—*Lob. ic.* i. 239, repr. in *Ger. em.* 297. 4, and cop. in *Park.* 794. 2, and *H. ox.* vii. 7. 29.—*J. B.* ii. 1024. 1, but the stem hairy.—*Dod.* 636. 3, repr. in *Lob. obs.* 115. 1; *ic.* i. 229. 2, *Ger. em.* 284. 2, and cop. in *Park.* 777. 2, and *J. B.* ii. 1024. 2.—*Ger.* 228. 2.—(*Gmel.* ii. 11. 12, do not resemble any varieties which I have seen.)

Plant of an ash-coloured green. Stem angular-furrowed. Branches as long as the stem. Root-leaves those of *Leontodon Taraxacum*; stem-leaves those of *L. autumnale*, but with the teeth at the base upright and longer; branch-leaves entire, strap-shaped, somewhat arrow-shaped and rolled back at the edge. Flowers of the appearance of those of *Lapsana communis*, never nodding. Empalement furrowed, sprinkled longitudinally with clammy hairs. Shafts as soon as they have passed through the tips brown, a singular circumstance. The plant, in most other respects, liable to great variations, in point both of structure and appearance, when growing in a rich soil appearing as figured by *Tab.* [the same with *Ger.* 228. 2;] when in a poor soil it is slender, about a foot high, with strap shaped leaves somewhat toothed, resembling those of *Plantago Coronopus*, [as in *Gmel.* ii. 6; *Str.*]—or a hand's breadth high, with leaves jagged like those of *Leontodon Taraxacum*. LINN.—Feather sitting. LEERS. HUDS. WITH.—Floral-leaves small, awl-shaped, at small distances beneath the flowers. Feather as long as the empalement. MR. WOODWARD.—Root very long and taper. Stems scored, purplish, often twisted, smooth. Leaves strap-shaped; stem-leaves with winged clefts embracing the stem. Empalement with black or brownish white hairs, terminating in small transparent globules; outer, leaves 5 to 10, not deciduous: inner keeled towards the bottom. Florets yellow on both sides, a little hairy at the top of the tubular part. Feather rather longer than the seeds, and longer than the tube of the blossom. WITH.—Bloss. yellow, expanding at 4 in the morning, and closing about noon.

Smooth Succory Hawk-weed.—(Yellow Devil's-bit is *Leontodon autumnale.* *Str.*)

Meadows, pastures, walls, roofs, road sides. A. June—Sept. Cows, Goats, Sheep, and Swine eat it. Horses are not fond of it.

β HUDS. Leaves tapering to a fine point.

Pet. 12. 7.

Pastures about London,

July. Aug.

* The arrow-shaped stem-leaves not expressed. MR. WOODWARD.

Hieracium aphacoides acutum. R. syn. 166. (ST.)

γ HUDS. Leaves entire, toothed.

Pet. 12. 5,—(3 and 4 are varieties of *Leontodon autumnale*.)

Pastures about London.

Hieracium lactucæ folio. R. syn. 164. (ST.)

4. Stems trailing, apparently from the stem having been bitten off in the spring. WITH.

5. Upper-leaves very entire. WITH.

CREPIS *bien'nis*. Leaves notched, with winged rough clefts, rough, toothed above the base. Empalements covered with sharp points, LINN.—sometimes smooth. ST.

J. B. ii. 1025. 3.—C. B. pr. 64, cop. in Park. 793, and H. ox.

vii. 4. 46.—Pet. 12. 10.

Stem angular, rough, 4 to 6 feet high, brittle. Leaves, all between lyre-shaped and winged, bristly underneath. Empalement furrowed, beset lengthways with soft prickles. Flowers closing between 3 and 4 in the afternoon. LINN.—Empalement rough with hairs laid to, HALL.—all the scales of the inner rough with black prominent hairs set along the back; POLLICH—scales of the outer smooth; of the inner with stiff black bristles; LEERS—and yet in specimens from six different places all the scales were slightly cottony with only here and there a scattered, short, bristly hair. ST.—Feather fitting. LEERS. Mr. WOODW. ST.—Leaves at the base of the lowermost flowering branches similar to the leaves below, those at the base of the upper flowering branches strap-spear-shaped. Flowering branches spreading, with several flowers. Flowers on separate fruit-stalks. Floral-leaves spear-shaped. Empal. inner, scales spear-shaped. Bloss. yellow. Seeds furrowed; feather hairy, extending a little beyond the empalement. Mr. WOODWARD. ST.

Rough Succory Hawk-weed.

Meadows and pastures in a calcareous soil. Road from Sittingburn to Rochester, and about Northfleet and other places in Kent.

B. July. Aug.*

995. HYOS'ERIS.

* This and the preceding species, together with *Leontodon bispidum*, *birtum*, and *autumnale*, have been combined together by Mr. Hudson under the name of *HEDYNOIS*, but, as I conceive, upon an erroneous principle. The only point in which these plants agree with each other, and chiefly differ from the plants with which they had before been associated, is the feather of the seed not being placed on a pillar. But the pillar is not a part distinct from the seed, and is only a longer or shorter extension of its outer coats. Hence we are not to wonder that plants of the same natural genus should vary in such a circumstance,

995. HYOS'ERIS. Swines-eye.

EMPAL. common, of 10 leaves. Scales spear-shaped; upright; equal; set with very short scales at the base.

Proper Cup superior; with 5 divisions; very short; sharp; permanent. It often supplies the place of the feather.

BLOSS. compound, somewhat tiled; uniform. Florets with chives and pointals, disposed in 1 or 2 rows.

Individuals; petal 1; narrow; lopped; with 5 teeth.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud rather oblong. Shaft thread-shaped; as long as the chives. Summits 2; reflected.

S. VESS. none. Common empalement straight.

SEEDS solitary; nearly oblong; compressed; as long as the cup; crowned with a hair-like Feather, or with the Proper Cup.

RECEPT. naked.

ESS. CHAR. Receptacle naked. Empalement nearly equal. Feather hairy, and with a small cup.

HYOS'ERIS

and in the *Hypochaeris glabra* the seeds of the centre are on pillars, while those of the circumference are without pillars. The downy or hairy feather, is a difference of structure, and forms a mark of essential distinction. ST.

HEDYP'NOIS. (Huds.)

EMPAL. common, double; oblong. Scales, the outer strap-shaped; nearly equal; loose; short; the inner strap-shaped; equal; loose; approaching.

BLOSS. compound, tiled; uniform. Florets with chives and pointals; numerous; equal.

Individuals of 1 petal; narrow; strap-shaped; lopped; with 5 teeth.

CHIVES. Threads 5; hair-like; very short. Tips cylindrical; tubular.

POINT. Seed-bud oval. Shaft hair-like; as long as the chives. Summits 2; bent back.

S. VESS. none. Empalement approaching; upright.

SEEDS solitary; oblong; furrowed; with a net-work, Feather mostly downy; sitting.

RECEPT. naked; dotted. HUDS.

ESS. CHAR. Receptacle naked. Empalement with an outer cup. Feather mostly downy; sitting. ST.

Obs. In the *H. biennis*, as well as *H. tetraërum* of Mr. Hudson, the feather is not downy.

HEDYP'NOIS

HYOS'ERIS *min'ima*. Stem divided, naked. Fruit- *small* stalks thickening upwards.—

Fl. dan. 201.—Clus. ii. 142. 2, repr. in Ger. em. 288. 8, and cop. in Park. 791. 9, and Pet. 15. 9.—Gies. 33.—Ger. 227. 8, cop. in H. ox. vii. 1. 8.

Root finall, woody, with a few stiff fibres. Leaves spreading in a circle, bluntly oval, tapering into a leaf-stalk, toothed on the sides, entire at the base and end, viewed with a glafs slightly hairy, particularly at the edges. Stalk 6 to 9 inches high, cylindrical, smooth, reddish and stiff at the bottom, green and hollow upwards, sometimes simple, oftener with 1, and sometimes 2 branches. Branches reddish, and wire-like at the base, hollow and thickening upwards, sometimes again branched. Flowers nodding before they open, afterwards upright. Empal. outer scales small, dry, and shrivelling; the inner very pointed. Blofs. yellow. Seeds oval, scored, crowned with the proper empalement. Mr. WOODWARD.

Small Swines Succory.

HEDYP'NOIS *bisp'idum*. Stalk naked, with 1 flower. Leaves spear- *rough* shaped, toothed, rough with hair. HUDS.

Leontodon bispidum, which see.

β *hirtum*. HUDS.

Leontodon bispidum hirtum β which see.

HEDYP'NOIS *autumna'le*. Stem naked, branched. Leaves spear-shaped, *autumnal* toothed, naked. HUDS.

β γ δ HUDS. *Leontodon autumnale* β γ δ which see.

ϵ HUDS. *Hieracium Taraxaci*, which see.

Obs. This plant varies with leaves toothed, indented-toothed, and winged clefts, and with the teeth very entire; the empalement smooth and hairy; the stem simple and branched, naked and scaly. HUDS.

HEDYP'NOIS *testo'rum*. Stem leafy, branched. Leaves notched, naked; *yellow* root-leaves spear-shaped; stem-leaves arrow-shaped, pointed, sitting. HUDS.

Crepis testorum, which see.

HEDYP'NOIS *bieracioi'des*. Stem leafy, with flowers in broad-topped *Succory* spikes. Leaves sitting, oblong, entire, rough with hairs. HUDS.

Picris hieracioides, which see.

HEDYP'NOIS *bien'nis*. Stem leafy, with flowers in broad-topped spikes. *tall* Leaves notched, rough with hair, toothed above the base. Empalements rough with sharp points. HUDS.

Crepis biennis, which see.

Meadows and corn fields in gravelly soil. About Hampton Court. Common Cornfield, Walthamstow, Essex. Teddington Field, near Hampton. Penfham Field, near Pershore, Worcester-shire, in the most barren and gravelly places. NASH.—[Corn fields near Norwich. Messrs. PITCHFORD and WOODWARD.]

A. May. June.

997. HYPOCHÆ'RIS. Cats-ear.

EMPAL. *common*, oblong; tiled; distended at the base. Scales spear-shaped; sharp.

BLOSS. *compound*, tiled; uniform. Florets with chives and pointals; numerous; the inner ones gradually shorter.

Individuals; petal 1; narrow; strap-shaped; lopped; with 5 teeth.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seed-bud* egg-shaped. *Shaft* thread-shaped; as long as the chives. *Summits* 2; reflected.

S. VESS. none; the *Cup* becoming globular, but tapering, closes on the seeds.

SEEDS solitary, oblong. *Feather* standing on a pillar, downy.

RECEPT. chaffy. *Chaff* spear-shaped; narrow; as long as the seeds.

ESS. CHAR. *Receptacle* chaffy. *Empalement* somewhat tiled. *Feather* downy.

Spotted HYPOCHÆ'RIS *macula'ta*. Stem almost bare, with a solitary branch. Leaves egg-oblong, entire, toothed.

Fl. dan. 149.—*Hall. enum.* 24. 1. at p. 740, repr. in *hist.* 1. 1. at p. 24.—*Clus.* ii. 139. 2, repr. in *Ger.* 301. 1, and cop. in *Park.* 799. 13, *J. B.* ii. 1027. 1, *H. ox.* vii. 5. 53, and *Pet.* 13. 1.—*Ger.* 237. 1.—*Hall.* 1. 1. at p. 24.

Seeds wrinkled. LINN.—*Stem* and *leaves* with red spots. *Stem* simple, with 1 flower. *Flower* large. RELHAN.—*Leaves* spreading on the ground in a circle, oval, toothed at the base, very entire towards the end, fringed, with reddish angular spots, and scattered hairs. *Stem* naked, with 1 or 2 strap-shaped scales. *Empal.* outer scales blackish, fringed; the inner smooth, yellowish, half as long as the florets, hairy, composed of large scales. MR. WOODWARD.—*Blossoms* yellow, they open at six in the morning, and close at 4 in the afternoon.

Cats-ears,

Cats-ears, Yorkshire. Mr. Wood.

Mountainous meadows and pastures. Gogmagog Hills, between Triplow Heath and Foulmire, Newmarket Heath, banks of the Devil's ditch near Reche, and Bartlow, Cambridgehire. Bernuk Heath, Northamptonshire. [About Gordale and Malham Cove, Yorkshire. Mr. Wood.] P. July.

The leaves are boiled and eaten like Cabbage.

Horses are fond of this plant when green, but they do not like it when dry. Cows, Goats, and Swine eat it. Sheep are not fond of it. LINN.—The country people believe it a cure for tetters, and other cutaneous eruptions, possibly through a vulgar prejudice, founded on its spotted leaves. Mr. Wood.

HYPOCHÆ'RIS gla'bra. Smooth. Empalements *smooth* oblong, tiled. Stem branched, naked. Leaves toothed-indented, LINN.—*with a few hairs along the edge.* Mr. Woodward. ST. WITH.

Curt. iii. 25.—Fl. dan. 424.—Pet. 12. 4.—H. ox. vii. 4. 35.—Pet. 11. 12.—Col. ecph. ii. 27. 2.

Differs from *H. radicata* in having minute blossoms, and the scales of the empalement being smooth, and the keel not fringed. Whole plant smooth. Stems nearly upright, with 1 or 2 branches, slender, hollow above, solid below. Leaves spear-shaped, indented-toothed. Fruit-stalks thickening upwards. Empalement that of *Leontodon autumnale*. Bloss. yellow, close. Seeds of the circumference with the feather sitting; those of the centre, feather on a pillar. Habit and appearance that of *Leontodon autumnale*. LINN.—Stem sometimes simple, in the autumn much branched and reclining. Leaves in a circle round the root, shining; teeth triangular. Flower-leaves small, similar to the root-leaves, 1 at the base of each branch, with a few spear-shaped scales. Empalement before flowering oblong, afterwards conical, perfectly smooth. Mr. Woodward.—Feather of the central seeds on a pillar from about 1-4th of the length of the seed to as long as the seed; rays woolly towards the base. ST.—Leaves, hairs at the edge white. Empalement long, conical; scales smooth, spear-shaped, not pointed, purplish at the ends. WITH.—Bloss. yellow, opening at 9, and closing about 12 or 1.

Sandy and gravelly soils. Near Middleton, Warwickshire. Norwich, and about Comb and Kingston, Surry. Pensham Field, near Pershore, Worcestershire. NASH.—[On the common close to the inn at Banktop, near Barnesley, Yorkshire. Mr. Wood.—Sandy parts of Norfolk and Suffolk. Mr. Woodward.—Washwood Heath, Warwickshire. WITH. ST.] A. June—Aug.

long-rooted HYPOCHÆ'RIS *radical'ta*. Leaves notched, blunt, rough. Stem branched, naked, smooth. Fruit-stalks scaly.—

Curt. iii. 26.—Fl. dan. 150.—Dod. 639. 2, repr. in Lob. obs. 120. 2, ic. i. 238. 1, Ger. em. 298. 6, and cop. in Park. 790, and H. ox. vii. 4. 27.—Ger. 227. 7, cop. in Park. 791. 8.—Pet. 11. 11.—J. B. ii. 1032. 1.

Fruit-stalks thickening upwards. Empal. keel of the scales fringed Blofs. large, closing at 3 in the afternoon. LINN.—Root-leaves spread on the ground, oblong-wedge-shaped, waved or toothed, hairy. Stem smooth, naked. Branches 1 or more, thickest under the flower, each with 1 flower. Flower-scales spear-shaped, scattered on the stem and branches. Empal. the inner, and the small scales at the base, smooth. Mr. WOODW.—Scales spear-shaped, 1 at the base of each branch, with a few white bristly teeth at the base on each side. Empalement not distended at the base; scales strap-spear-shaped, set along the upper part of the keel with a row of short, taper, dark, purple bristles. Blofs. florets a little hairy at the bottom of the border. Seeds scored, rough; pillar longer than the seed; feather rather longer than the pillar. Chaff strap-shaped, tapering and yellow towards the top. WITH.—Blossoms yellow within, reddish green without.

Long-rooted Hawk-weed.

Meadows and pastures.

P. May—Sept.

2. Smaller. Stem 5 or 6 inches high, simple, or with 1 flower, nearly fitting, on the side. Scales of the empalement hairy on the back. Mr. WOODWARD.

998. LAP'SANA. Nipplewort.

EMPAL. common, double; egg-shaped; angular. Scales of the tube 8; equal; strap-shaped; with a hollow channel; keeled; sharp. Scales of the base 6; tiled; small; every other smaller.

BLOSS. compound, tiled; uniform. Florets with chives and pointals, about 16; equal.

Individuals; petal 1; narrow; lopped; with 5 teeth.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud rather oblong. Shaft thread-shaped; as long as the chives. Summit cloven; reflected.

S. VESS. none. The scales of the tube of the cup close upon the seeds.

SEEDS solitary; oblong; cylindrical; with 3 edges. Feathers various; sometimes wanting.

RECEPT. naked; flat.

ESS. CHAR. Receptacle naked. Empalement double; each of the inner scales channelled.

LAP'SANA *communis* Empalement of the fruit common angular. Fruit-stalks slender, very much branched.—

Curt. i. 10.—Fl. dan. 500.—Lob. obs. 104. 1, repr. in ic. i. 207.

1, Ger. em. 255, and cop. in Park. 810. 1, and J. B. ii. 1028.

—Dod. 675. 2, abridged in H. ox. vii. 1. 9, and Pet. 14. 12.

—Ger. 231. 8.

Seeds all naked, none involved in the scales of the empalement.

LINN.—Stem 2 to 4 feet high, stiff, hollow, cylindrical, scored, hairy. Leaves alternate; the lower egg-spear-shaped, on leaf-stalks; the upper spear-shaped, higher up strap-shaped, the uppermost awl-shaped. Leaf-stalks bordered, the border with winged clefts, and 1 or 2 pair of wings, slightly hairy. Flowering branches long, naked, or with 1 or 2 awl-shaped scales, much branched at the top, each branch with 1 flower. Empal. scales stiff, smooth, the inner spear-shaped. Blofs. yellow. Mr. WOODWARD.—Stem nearly cylindrical, scored, hairy; the hairs terminated by minute globules. Branches smooth. Leaves toothed, rough with hair, the lower egg-shaped, on long leaf-stalks, the upper spear-shaped, sitting. Leaf-stalks flat, with 2 or 3 pair of small unequal wings. Empalement rather cylindrical; the outer, scales spear-shaped, closely embracing

embracing the base of the inner cup. *Bloss.* yellow; *florets* 15 to 18. *Shaft* purplish. *Summit* dark purplish green. WITH.

Nipplewort. *Dock Cresses.*

Hedges, shady places, and on rubbish.

A. June, July.

At Constantinople they eat it raw just before it comes into flower.

- 1000. CICHOR'RIUM. Endive.

EMPAL. *common*, double; cylindrical. *Scales* 8; narrow; spear-shaped; equal; forming a cylinder; 5 of them shorter than, and lying upon the others.

BLOSS. *compound*, flat; uniform. *Florets* with chives and pointals, about 20; placed in a circle.

Individuals; petal 1; narrow; lopped; deeply divided into 5 teeth.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a hollow cylinder; with 5 edges.

POINT. *Seed-bud* oblong. *Shaft* thread-shaped; as long as the chives. *Summits* 2; rolled back.

S. VESS. none; but the cylindrical Cup closing at the point.

SEEDS solitary; compressed; with sharp angles. *Crown* of the seed an imperfect margin, with about 5 teeth.

RECEPT. chaffy.

ESS. CHAR. *Receptacle* somewhat chaffy. *Empalement* double. *Feather* of mostly 5 teeth; imperfectly hairy.

wild CICHOR'RIUM *Intybus*. Flowers in pairs, sitting. Leaves notched.—

Curt. iv. 41.—*Blackw.* 177.—*Walc.*—*Dod.* 635, repr. in *Lob. obs.* 114. 1, *ic.* i. 228. 2, *Ger. em.* 284. 1, and cop. in *Park.* 776. 2, and *H. ox.* vii. 1. row 2. 2.—*Fuch.* 679, cop. in *J. B.* ii. 1008, *Trag.* 272, and imitated in *Lonic.* i. 94. 1.—*Ger.* 235. 10.—*Mauh.* 503.

Flowers open at 8, and close at 4. LINN.—*Bloss.* sometimes white. RELHAN.—*Leaves*, the teeth and ends terminated by a sharp stiff awn. *Empal.* inner, scales fringed. MR. WOODWARD.—*Stem* angular. *Stem-leaves* spear-shaped, embracing the stem, toothed towards the base, fringed with bristly hairs terminating in globules. *Flowers* in the bosom of the upper-leaves. *Empal.* outer, scales 6, bent back, about half as long as those of the inner, set on the outside and edges with whitish hairs terminated by small globules; inner, scales skinny, set along the back with similar hairs,

hairs, woolly at the ends. *Bloss.* of a fine blue; *individuals* with 5 or 6 semi-transparent lines, a little woolly on the outside, especially about the top of the tube. *Tips* in a cylinder, striped blue and white. *Seed-bud* edged with little teeth. *Summits* blue. *Seeds* oblong, with 4 corners, crowned with a small greenish cup edged with numerous white skinny teeth. *Chaff* short, spear-shaped.

WITH.—*Flowers* lateral.

Wild Succory, or Cichory.—Borders of corn fields. B. July. Aug.

The leaves, when blanched, are eaten early in the spring in fallads. They lose their bitterness by cultivation.—The roots, gathered before the stem shoots up, are eatable, and, when dried, will make bread.

Sheep, Goats, and Swine eat it. Cows and Horses refuse it.

1002. ARC'TIUM. Burr.* (Park.)

EMPAL. common, globular; tiled. *Scales* spear-shaped; ending in awl-shaped prickles; long and hooked at the points.

BLOSS. compound, tubular; uniform. *Florets* with chives and pointals equal.

Individuals; petal 1; tubular. *Tube* slender; very long. *Border* egg-shaped; with 5 clefts. *Segments* strap-shaped; equal.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a hollow cylinder; as long as the blossom; with 5 teeth.

POINT. *Seed-bud* oblong; with soft hairs at the end. *Shaft* thread-shaped; longer than the chives. *Summit* cloven; reflected.

S. VESS. none. *Cup* closing.

SEEDS solitary; like an inverted pyramid; the 2 opposite angles imperfect; hunched on the outer side.

Feather simple; shorter than the seed.

RECEPT. chaffy; flat. *Chaff* like bristles.

ESS. CHAR. *Empalement* globular; *scales* hooked at the points; *hooks* bent inwards.

ARC'TIUM *lap'pa*. Leaves heart-shaped, on leaf-stalks, without thorns.—common

* *Burdock* would seem to be a species of *Dock* or *Rumex*. ST.

Ludw. 106.—*Curt.* iv. 40.—*Matth.* 1154.—*Lob. obs.* 318. 2, repr. in *ic.* i. 588. 1, cop. in *Ger.* 664. 1, and ill cop. in *Park.* 1223. 1.—*Dod.* 38, repr. in *Lob. obs.* 318. 1, *ic.* i. 587. 2, *Ger. em.* 809. 1.—*Pet.* 23. 1, in fruit.—*Fuchf.* 72, cop. in *J. B.* iii. 570, and imitated in *Trag.* 837.—*Blackw.* 117. 1.—*H. ox.* vii. 32. 1.—*Lonic.* i. 64. 2.

Heads with a very slight woolliness, not so broad as those of (β HUDS.) nor so round as the varieties with woolly heads. The most common of all. *RAY.*—*Leaves*, the lower on long leaf-stalks, waved at the edges; the upper egg-spear-shaped. *Mr. Woodw.*—*Stems* reddish. *Stems* and *Leaves* with short white soft bristles. *Fruit-stalks* from the bosom of the leaves. *Empal. scales* green and fleshy at the base, purple towards the top, keeled, ending in long stiff awns, yellow at the hooked ends. *Bloss.* tube white; border red. *Tips* bluish purple. *Shaft* white. *Summits* expanding, white. *Seeds* oblong, angular, somewhat flattened. *WITH.*

Burdock. Burr. Clott-bur. Hurr-burr.

Road sides, rubbish, and ditch banks.

B. July. Aug.

Before the flowers appear, the stems, stripped of their rind, are boiled and eat like asparagus. When raw they are good with oil and vinegar.—A decoction of the roots is esteemed by some very sensible physicians, as equal, if not superior to that of sarsaparilla.—Boys catch bats, by throwing the prickly heads up into the air.—Cows and Goats eat it. Sheep and Horses refuse it. Swine are not fond of it.

The *Phalæna Humuli* feeds upon the roots, and the Mottled Orange Moth upon the stems. *LINN.*—A Horse eat the leaves, and has been observed to eat the heads. *ST.*

β *Heads* roundish, rather larger, brownish purple, covered with a whitish cotton. *Bloss.* purple. *Stem* dark red. *RAY.*

Mill. ic. 159.—*Blackw.* 117. 2.—*Fl. dan.* 642.—*Pet.* 23. 5.—

Matth. 1155.—*H. ox.* vii. 32. 2.

Road sides, and rubbish.

Lappa major montana, capitulis tomentosis sive Arctium Dioscoridis. *R. syn.* 197.—*Bardana major lanuginosis capitulis.* *PARK.* 1222.—*Bardana major altera.* *GER. em.* 810. (*ST.*)

β *HUDS.* *Heads* quite smooth, very large, an inch in diameter, green. *Bloss.* purplish.

New Cross, Kent. *RAY.*

δ *HUDS.* *Heads* small, smooth, of the size of a hazel nut, broadish at the base, brown. *Bloss.* purple. *RAY.*

Pet. 23. 3.

ϵ *HUDS.* *Heads* of the size and colour of those of δ , rounder, brown or purplish, and with a considerable quantity of cotton. *RAY.*

Pet.

Pet. 23. 4.—*J. B.* iii. 571. 1.

Near Halifax, Yorkshire, RAY.

Lappa major montana, capitulis minoribus rotundioribus et magis tomentosis. R. syn. 197.—*Personata altera cum capitulis villosis.* J. B. hist. III. 571. (ST.)

♂ HUDS.—Heads somewhat smaller, and with the cotton in less quantity but finer than of ♀, whitish green. RAY.

Pet. 23. 6.

Lappa major ex omni parte minor, capitulis parvis eleganter reticulatis. R. syn. 197. (ST.)

7. With leafy heads. PLUK.

Pet. 23. 2.

About London. Aug. PET.—A variety of α. DILL.

Lappa vulgaris major capitulis foliosis. R. syn. 197. (ST.)

1003. SERRA'TULA. Saw-wort.

EMPAL. common, oblong; rather cylindrical; tiled. Scales spear-shaped; without awns; sharp.

BLOSS. compound, tubular; uniform. Florets with chives and pointals; equal.

Individuals; petal 1; funnel-shaped. Tube bent inwards. Border with 5 clefts; distended.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud egg-shaped. Shaft thread-shaped; as long as the chives. Summits 2; oblong; reflected.

S. VESS. none. Cup unchanged.

SEEDS solitary; inversely egg-shaped. Feather sitting.

RECEPT. naked, or chaffy.

ESS. CHAR. Empalement nearly cylindrical; tiled; without thorns.

Obs. The feather in some species is downy, but in others hairy. CARDUUS is distinguished from SERRATULA by the receptacle being hairy; the cup distended; its scales thorny; and the summit not so deeply cloven.

SERRA'TULA tinctoria. Leaves lyre-shaped with winged clefts; the terminating segment very large. Florets all alike. LINN.—Leaves serrated, smooth. HALL. ST. Leaves sometimes undivided. Mr. WOOD.

Fl.

Fl. dan. 281.—*Ger.* 577. 3.—*Matth.* 945. 1, *cop. in Clus.* ii. 8.
 1. *b*, repr. in *Dod.* 42. 3. *b*, *Lob. obs.* 288. 2. *b*, *ic.* i. 534.
b, *Ger. em.* 713. 1. *b*, and *cop. in Pet.* 22. 6.—*J. B.* iii. 23.
 2.—*Park.* 475. *a*.

Leaves fringed. *Receptacle* bristly. LINN.—*Stem* 2 to 3 feet high, firm, 4-cornered, scored, smooth. *Leaves* sometimes entire, mostly with winged clefts, alternate, half embracing the stem; wings spear-shaped, sharply ferrated, or rather toothed, woolly above, and at the edges and veins underneath. *Flowers* single or in clusters, terminating or on branches. *Empal.* scales numerous, slightly cottony at the edges, the upper rather longer. *Bloss.* purple. *Feather* yellowish, shining, hairy. MR. WOODWARD.—*Stem* angular, furrowed. *Leaves* sitting, ferrated; terminating segment spear-shaped. *Empal.* egg-shaped. *Feather* hairy. WITH.—*Feather* of the seed glossy, with a yellow tinge.

Saw-wort.—Woods and pastures.

P. July.

This is very much used by the dyers to give a yellow colour; but is inferior to the YELLOW-WEED, therefore its use is confined to the coarser woollen cloths.

Goats eat it. Horses not fond of it. Sheep, Swine, and Cows refuse it.

β Blossoms white.

[Alconbury, five miles from Huntingdon, on the North road. MR. WOODWARD.]

3. All the leaves entire. HALL. MR. WOOD.

Ger. 576. 1.—*Matth.* 945. 2, *cop. in Clus.* ii. 8. 1. *a*, which repr. in *Dod.* 42. 3. *a*, *Lob. obs.* 288. 2. *a*, *ic.* i. 534. 1. *a*, *Ger. em.* 713. 1, and *cop. in Pet.* 22. 5, and imitated in *Park.* 475. *b*.

4. Lower-leaves entire, the upper cut. HALL.

Ger. 576. 2.

5. All the leaves jagged, HALL.—with winged clefts, without the large terminating segment. Wings spear-shaped, ferrated. WITH.

Zanon. 94.

mountain SERRA'TULA *alpina*. Empalements somewhat hairy, egg-shaped. Leaves undivided. LINN.—Leaves toothed. HALL.—Feather downy. ST.*

Lightf. 19. at p. 449.—*Pluk.* 154. 3.—*Gmel.* ii. 26.—I have not seen the plant.

* Pappo plumoso. ST.

Root-leaves egg-spear-shaped, ferrated, the ferratures not ending in bristles but expanding, smooth above, woolly and whitish underneath. *Stem-leaves* 7 to 10, spear-shaped, very entire, nearly fitting. *Stem* undivided, a span high. *Flowers* 8 to 12, in a broad-topped spike terminating the stem. *Empalement* oblong, nearly cylindrical. A proteous-like plant, concealed under a great variety of external appearances, but its blue flowers and general fructification evidently declare it to be one. *Leaves* in ours spear-shaped, hoary underneath, nor ever triangular like those of *Ctenopodium Bonus Henricus*, or snowy underneath, as in another variety which I have cultivated close to the other. These varieties cannot have been owing to situation. Possibly the exotic variety may have been a mongrel produced between ours and the *Carduus heterophyllus*. LINN.

Sides of the Highland mountains, and in the Lowlands near Moffat in Anandale. LIGHTF.

P. Aug. Sept.

β cynoglossifolia. Leaves spear-shaped, narrow. HALL. LIGHTF.

Fl. dan. 37.—*Dill. elth.* 70.—*Gmel.* ii. 32.

Highest rocks of Snowdon, and Brearcliff near Brunly, Lancash. RAY.

P. July.

γ lapathifolia.—*Hall.* 6, at p. 77.—*Clas.* ii. 151, repr. in *Ger. em.* 1184, and cop. in *H. ox.* vii. 29. 1.

Near a rivulet on the rock Rhiw'r Glyder above the lake Llyn y Cwn near Llanberys, Caernarvonshire. RAY.

SERRAT'ULA *arven'sis*. Leaves toothed, thorny.—*cor*

Fl. dan. 644.—*Col.* i. 46.—*Ger. em.* 1173. 4, cop. in *Park.* 959.

7. *H. ox.* vii. 32. 14, and *Pet.* 21. 5.—*J. B.* iii. a. 59. 2.

It has the habit of a *Carduus*, LINN.—add to which that the feather of the seed is very long. MR. WOODWARD.—Feather hairy. ST.—*Blossoms* pale purple. Feather of the seed very long.

Carduus arven'sis. CURT. cat. n. 533. MR. WOODWARD. ST.

Way Thistle.—Corn fields and road sides. P. July.

It is said to yield a very pure vegetable alkaly when burnt.

Goats eat it. Neither Cows, Horses, Sheep, or Swine are fond of it. LINN.—Horses sometimes eat the young tops. ST.

2. Leaves much less thorny, not so deeply indented. RAY. MR. BALLARD. ST.

Ger. 1011. 5.

Carduus in avena proveniens. C. B. pin. 377.—*Carduus vulgarissimus wiarum*, var. R. syn. 194. (MR. BALLARD. ST.)—*Carduus muscatus*. *Ger.* 1011. (ST.)

Amongst

Amongst the corn in Battersea Fields, over against Chelsea.
RAY.—[Found by Mr. Sole somewhere in Devonshire, and cultivated in both our gardens for some years past. Mr. BALLARD.]

1004 CAR'DUUS. Thistle.

EMPAL. Common; distended; tiled. Scales numerous; spear-shaped; tapering; thorny.

BLOSS. Compound; tubular; uniform. Florets with chives and pointals, nearly equal; reflected.

Individuals; petal 1; funnel-shaped. Tube very slender. Border upright; egg-shaped at the base; with 5 clefts. Segments strap-shaped; equal; 1 more deeply divided.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder as long as the blossom; with 5 teeth at the mouth.

POINT. Seed-bud egg-shaped. Shaft thread-shaped; longer than the chives. Summit simple; awl-shaped; naked; notched at the end.

S. VESS. none. Cup closes a little.

SEEDS solitary; inversely egg-shaped; with 4 angles, the 2 opposite ones imperfect. Feather fitting; very long.

RECEPT. hairy; flat.

ESS. CHAR. Empal. egg-shaped; tiled with thorny scales. Receptacle hairy.

* Leaves running along the stem.

spear CAR'DUUS *lanceolatus*. Leaves running along the stem; with winged clefts; rough with hair; segments straddling. Empalements egg-shaped; thorny; woolly. Stem hairy.—

Ger. 1011. 6, cop. in Ger. em. 1174. 6, and cop. in Park. 982. 9, and H. ex. vii. 31. row 1. 7.—Pct. 21. 7.

Empal. innermost scales without thorns, bristle-shaped, dry. LINN.—Leaves, segments spear-shaped. RELHAN.—Stem angular, cottony, frequently purple. Leaves half embracing the stem, cottony and sea-green underneath, hairy and deep green above, wings spear-shaped, the terminating one long, the side ones mostly divided to the base into 2 segments, one pointing upwards, the other downwards, terminating, as do also the wings of the part

part running down the stem, in sharp stiff white thorns, which are extensions of the ribs. *Empalement* with numerous ranges of spear-shaped scales, somewhat cottony, ending in sharp stiff white thorns, the inner strap-shaped, pointed, not thorny. *Bloss.* purple. *Feather* downy, almost as long as the blossom. Mr. WOODW.

Rubbish and road sides.

B. July.

Few plants are more disregarded than this, and yet its use is very considerable. If a heap of clay is thrown up, nothing would grow upon it for several years, did not the seeds of this plant, wasted by wind, fix and vegetate thereon. Under the shelter of this, other vegetables appear, and the whole soon becomes fertile.—The flowers, like those of the Artichoke, have the property of curdling milk.

Sheep and Swine refuse it; neither Horses, Cows, or Goats are fond of it.—The *Papilio Cardui*, and the Thistle Ermine Moth, feed upon it. LINN.—A Horse eat it, but with caution, on account of the prickles. ST.

β HUDS.—Heads twice as large. Stem frequently above the height of a man.

On the side of the high road from York to Malton. RAY.

Ƴ. B. iii. a. 58. 2, is referred to with a mark of doubt by Ray.

γ HUDS.—Heads and blossoms smaller. Smaller in all respects.

About the walls of York. RAY.

CAR'DUUS *nutans*. Leaves running down half way to the next leaf, thorny. Flowers on crooked fruit-stalks. The upper scales of the empalement expanding.—

Fl. dan. 675.—*H. ox.* vii. 31. row 1. 6, imitated in *Pet.* 21. 1.—

Ƴ. B. iii. 56. 3.—(*Ger. em.* 1174. 5, is *Onopordum Acanthium*.)

Fruit-stalks with 1 flower. Flowers sweet-scented in the night. Shafts bent back towards the sides. LINN.—Fruit-stalks cottony, leafless. HUDS.—Stems 2 to 3 feet high, scored, cottony. Branches alternate. Fruit-stalks terminating, cottony, particularly that which terminates the stem. Leaves with winged clefts; wings egg-shaped, with strong thorns. *Empal.* scales spear-shaped, cottony, with the rib running along the back terminating in a thorn, the lowermost bent back, the inner without thorns. *Feather* hairy, nearly as long as the florets. Mr. WOODWARD.—*Empal.* scales distinct above, the lowermost horizontal, the middle ones expanding, the upper upright, all ending in thorn like points, but the innermost not pungent. ST.—Stem, leaves and empalements overspread with a cobweb kind of woolliness. *Empal.* globular, flattened; scales very strong, horizontal when the flower is expanded, purplish towards the end, terminating in a strong yellow

thorn. *Bloss.* tube whitish, border purple. *Threads* woolly. *Dust* grey, globular, set with fine points. *Feather* simple. *WITH.*

Carduus spinosissimus latifolius sphaerocephalus vulgaris. Bauh. pin. 385, is referred to by Linnæus, and may be the plant, but the figure cited by C. B. from Dod. is evidently a different species, the *C. inclinans* of the Botanical Arrangement.—(*Cirsium majus singulari capitulo magno.* Bauh. pin. 377, referred to in *R. syn.* is clearly a different species.) *ST.*

Pastures in a calcareous soil. *Huds.* [and road sides in a sandy or gravelly soil. *ST.*] A. July.

inclining **CAR'DUUS** *inclinans.* *ST.*—Leaves running down, indented, thorny at the edge. *Empalements* globular, on fruit-stalks, solitary, upright; *Huds.*—the scales loose, awl-shaped, straight, the innermost without prickles, coloured. *ST.* Mr. WOODWARD.*

Dod. 739. 1, repr. in *Ger. em.* 1173. 3, and cop. with the addition of an empalement of *C. acanthoides*, in *H. ox.* vii. 31. 13, which cop. in *Pet.* 21. 3?—*Ger.* 1010. 1?—(*H. ox.* vii. 30. 11, cop. in *Pet.* 21. 3, accords in the slightly nodding flowering branches, but is clearly *C. acanthoides*.—*Dod.* 740, repr. in *Lob. obs.* 489. 2; *ic.* ii. 21. 1, *Ger. em.* 1173. 1, and cop. in *Park.* 982. 5, is referred to by Ray, but all the empalements, both in and out of flower, are egg-shaped.—*J. B.* iii. a. 59. 1, is *C. crispus.*)

Stem solitary, herbaceous, mostly hollow, 3 to 4 feet high, upright, angular, bordered all the way by the edges of the leaves, curled, thorny, cottony, branched. *Branches* alternate, expanding. *Leaves* alternate, expanding, both edges running down, oblong, indented, the segments opposite toothed and thorny, almost naked above, cottony underneath. *Flowers* terminating, solitary, on fruit-stalks, purple. *Empalements* globular, upright, cottony; scales oblong, tapering to a point, scarcely thorny. *Huds.*—Differs from *C. nutans* as follows. *Stem* taller. *Heads* smaller, scarcely nodding. *RAY.* *ST.*—*Leaves* of a darkish green. *Empal.* scales with thorns, not rigid, but rather weak. *MORISON.* *ST.*—*Stem* branched; leafy border curled. *Empal.* scales pointed, not pungent, the lower bowed back, the upper upright. *Bloss.* purple. *LIGHTF.* *ST.*—*Stem*, the leafy border more regular, and thorns more equal than in *C. acanthoides.* *Root-leaves* exactly spear-shaped, triangularly toothed, or rather very deeply and doubly ferrated; *stem-leaves*

* *Foliis decurrentibus margine spinosis, calycibus subrotundis laxis. squamis calycinis subulatis rectis, intimis inermibus, coloratis.* *ST.* Mr. W.

Thistle upon Thistle.—Ditch banks, hedges, and amongst briars, RAY. ST.—rubbish and road sides. HUDS.—[Norfolk, Suffolk, Hertfordshire, and the midland counties, frequent; on the borders of corn fields. MR. WOODWARD.] A. July.

CAR'DUUS *acanthoides*. Leaves running down, *welted*
indented, thorny at the edge. Empalements on fruit-
stalks, solitary, upright, woolly. LINN.—Leaves in-
dented, toothed. Empalements egg-shaped, sitting;
scales taper-pointed, nearly upright. HUDS.—Leaves
with winged clefts. Empalements clustered, sitting,
somewhat cylindrical, smooth, LIGHTF.—as long as the
3 L 2 blossom;

bloffom; points of the fcales expanding. ST. MR. WOODWARD.*—*Empalements fightly cobwebbed.* ST.

H. ox. vii. 30. 11, cop. in Pet. 21. 2, but the flowering-branches fomewhat noddng inftead of upright.—*J. B. iii. a. 56. 1, but the ftcm below the flowers represented as fmooth inftead of bordered and prickly.*—*H. ox. vii. 31. 13, feparate empalemt, cop. in Pet. 21. 3, fccms intended to represent the heads of this fpecies, but the points are ftraight, and taper regularly to the end.*—*Dod. 740, repr. in Lob. obf. 489. 2; ic. ii. 21. 1, Ger. em. 1173. 1, and cop. in Park. 982. 5, accord in the empalements which are rather egg-fhaped than globular, and the larger flowers fccm to be representations of them when in feed, but Mr. Woodward remarks that the leaves are too pointed.*

Stem with white elevated long lines. Leaves halberd-winged, and fpinkled underneath with white upright hairs as in *C. crispus*. Fruit-ftalks with a leafy thorny border, in which it differs from *C. crispus*. Flowers fmaller than thofe of *C. nutans*, larger than thofe of *C. crispus*. Differs from *C. nutans* in its empal. being upright, from *C. crispus* in its empal. being folitary and woolly. *Empal.* inner fcales expanding. *Florets* cloven $\frac{1}{2}$ way down, the lowernioft fegments feparated nearly to the bafe, fo as to give the floret the appearance of having 2 lips, an upper one with 4 clefts, and a lower one undivided, which is not the cafe in *C. nutans* or *crispus*. *Shafts* as long again as the florets. LINN.—*Root-leaves* at their frft appearance a good deal refembling thofe of *C. marianus*. *Flowers* fmall, pale purple, crowded together at the top of the ftcm. RAY. MR. WOODW.—*Root* branched. *Stems* fccveral, herbaceous, hollow, 2 feet high, quite upright, angular, with 4 borders from the edges of the leaves running down all the way, woolly below, above cottony and branched. *Branches* alternate, upright, from the bofom of the leaves. *Leaves* alternate, running down from each edge, oblong, indented-toothed, fegments oppofite toothed, thorny at the edge, cottony underneath, woolly above. *Flowers* terminating, cluftered, fitting, pale purple. *Empalement* egg-fhaped, fomewhat cottony; fcales egg-fhaped. taper-pointed, nearly upright, permanent. HUDS.—*Stem* but little branched; the leafy border wide indented and thorny. *Leaves* with winged clefts, cottony underneath, and fightly fo above. *Empalement* acutely conical before flowering, cylindrical afterwards; fcales a little bent back at the end, and terminated with a thorn. *Flowers* in clufters at the top of the ftalk, fitting, with a few here and there on the fides towards the top.

* *Foliis decurrentibus margine fpinofis, calycibus cylindricis, corollam æquantibus, squamis apice patentibus.* ST. MR. WOODWARD.

top. *Blossom* pale red, almost white. **LIGHTF. ST.**—*Stem*; leafy border with numerous stiff yellow thorns of various lengths. *Leaves*, the lower with winged clefts; wings broad, blunt, somewhat 5-cornered, with 5 imperfect lobes, the terminating one very broad and blunt, cottony underneath, above smooth, excepting a few short hairs arising from glandular warts; ribs ending in sharp yellow thorns; those above pointed, wings triangular, confluent. *Flowers* sitting, incorporated, pointing upwards, sideways, and downwards; sometimes in branched bunches, terminating the branches, on short fruit-stalks upright or open. *Empal. scales* spear-shaped, yellowish green, the upper expanding, the innermost chaffy, all tipped with sharp thorns. *Bloss.* segments somewhat longer than the tips, which are even with the pointal. *Feather* nearly as long as the blossom, hair-like. **MR. WOODWARD. ST.**—*Empalement* apparently smooth, but on a closer examination slightly woolly with a cobweb wool; scales green towards the ends, the innermost white at the end; thorns yellowish. **ST.**

C. spinosissimus capitulis minoribus. R. syn. 194. hist. i. 309. 3.—*C. alis caulinis latissimis; foliis semipinnatis; pinnis angulosis, spinosis; floribus longis fasciculatis.* Hall. 166.—*C. acanthoides*, Lightfoot, who adopting from Haller the opinion that it is not the *C. acanthoides* of Linnæus, has given a new character, still employing the same trivial name. **MR. WOODWARD. ST.**

Wetted Thistle with small flowers. RAY.

Ditch banks, on rubbish, borders of corn fields. [Plentifully on banks and under walls near Yarmouth, and also in waste places far from the coast. I had it growing for some years without variation. **MR. WOODWARD.**—Road sides about London, but I have not observed it in Worcestershire, Warwickshire, Staffordshire, or Shropshire. **ST.**]

A. June. July.

CAR'DUUS *palustris*. Leaves running down, marsh toothed, thorny at the edge. Flowers in bunches, upright. Fruit-stalks without thorns. **LINN.**—Feather downy. **ST.***

Gmel. ii. 23. 2, but the points of the scales of the empalement not bent back.—H. ox. vii. 32. 13, cop. in Pet. 21. 4.—(Fl. dan. 621, *C. crispus*, is a good representation of it, except that the leaves in that species are only indented, and not with winged clefts.)

* Pappo plumoso. **ST.**

Fruit-stalks without thorns. *Empalement* closely tiled, smooth, the points of the scales being hardly discernible. *Feather* downy. LINN.—*Leaves* with winged clefts. POLLICH.—*Stem* much taller than the 2 last species, 5 to 6 feet high and upwards, upper part and branches slender and with few leaves. *Flowers* in a looser head. *Empal.* scales woolly, green tipped with deep purple, without a rib along the back, ending in a short expanding thorn not pungent; inner pointed, without thorns. *Bloss.* segments even with the tips, shorter than the pointal. *Feather* shorter than the blossom; rays fringed with long hairs. MR. WOODWARD.—*Tips*, teeth very long, fringed. *Blossom* purple. WITH.

Marshy meadows and moist shady places, [and wet clayey pastures. MR. WOODWARD.] P. July.

This, and almost all the other species of this genus, may be eaten like the Burdock, before the flowers are formed.

Swine eat it. Horses are very fond of it. Cows refuse it.

2. Blossoms sometimes white. LINN. MR. WOODWARD. ST.

3. *criflatus*. ST. A monstrous variety, with a broad flat stem and head of flowers.

It grew in the middle of a pasture. The root produced the same for two years together. WITH.—*Stem* 3-4ths of an inch broad. Cluster of empalements 2 inches and an half broad, the upper edge crowned with a continued line of florets, so as to give it the appearance of the Cockscorn Amaranthus of the gardens. ST.

* * *Leaves sitting.*

milk CAR'DUUS *maria'nus*. Leaves embracing the stem, halberd-shaped with winged clefts. Empalements without any leaves near it; thorns channelled, and set with other little thorns.—

Curt. iii. 25.—Blackw. 79.—Ludw. 35.—Tuchf. 56, cop. in J. B.

iii. a. 52. 2, imitated in Trag. 850, which cop. in Lonic. i. 70.

2.—Ger. 989, cop. in Pet. 21. 9.—Dod. 722. 1, repr. in Lob.

obs. 479. 1; ic. ii. 7. 2, Ger. em. 1150, and cop. in Park. 976.

1, and H. ex. vii. 30. row 2. 1. f. 4, thorns of the empalement by far too short.—Matth. 676.

Leaves with a net-work of white veins. The thorns of the empalement sufficiently distinguish this from the other species. RELH.—*Stem-leaves* irregularly egg-shaped, toothed, and thorny, above dark green and shining with a net-work of white veins, underneath sea-green, the ribs hairy. *Empal.* scales few, large, egg-shaped, smooth, somewhat membranaceous, terminated with a triangular appendage, ending in an extremely long, stiff, expanding, awl-shaped thorn, and edged with smaller thorns. *Feather* much shorter than

than the blossom; hairs when viewed with a glass finely toothed.
Mr. WOODWARD.—*Blossom* purple.

Milk Thistle. Ladies Thistle.—Ditch banks, road sides, borders of corn fields, and on rubbish. A. Aug.

This is eaten when young as a salad. The young stalks peeled, and soaked in water to take out the bitterness, are excellent. The scales of the cup are as good as Artichokes. The root is good to eat early in the spring.

β HUDS. RELH.—Leaves green, without the white spots.

About London. RAY.

CAR'DUUS *eriph'orus*. Leaves fitting, with winged woolly-headed clefts pointing 2 ways, every other segment upright. Empalements globular, woolly.—

Chf. ii. 154, repr. in *Dod.* 723, *Lob. obs.* 482. 1; *ic.* ii. 9. 2,

Ger. em. 1152, and ill cop. in *J. B.* iii. a. 57, and *Park.* 978.

—*Mill. ic.* 293.—(*Ger. em.* 1151. 5, which is a re-impression of *Lob. adv.* 370, is a different plant.)

Stem 2 feet high, branched, flowering the second year. *Empal.* as large as an egg; points of the scales strap-shaped, horizontal, entire, with a cobweb-like wool interwoven. *Leaves*, every other segment pointing downwards. LINN.—Stem 4 or 5 feet high, angular, scored, woolly, much branched. *Root-leaves* 1 to 2 feet long, wings distant, with 2 lobes, unequal, the larger strap-shaped, the lesser spear-shaped, very entire, but fringed with a few fine thorns; mid-rib stiff, extending out into a sharp thorn; above green, with numerous short stiff hairs pressed closely; underneath with a thick, woolly, white down. *Stem-leaves* embracing the stem; lobes not so regular, all spear-shaped, the terminating one long. *Fruit-stalks* slender, extremely cottony. *Empalements* clustered, terminating the stem and branches; scales strap-spear-shaped, terminated by a long softish thorn, covered and interwoven with a thick cottony wool. *Tips* extending beyond the blossom. *Shaft* much longer than the tips. *Summit* very slightly cloven. *Seeds* large, whitish, nearly oval, without ridges. *Feather* shorter than the blossom, downy. Mr. WOODWARD.—*Empal.* scales ending in a yellow thorn. *Bloss.* purple, or white.

Friar's Crown.—Both in flat and mountainous meadows and pastures. RAY. ST.—Bredon Hill, Worcestershire. NASH.—[By the road side between Stamford and Grantham, plentifully. Dr. J. E. SMITH.—About Ripton, Huntingdonsh. Mr. WOODW.—Hillend Bank in Longdon Parish, Worcestersh. Mr. BALLARD.—On the foot-way between Clarkton Leap and Kemsay, Worcestershire. ST.]

B. July.

melancholy CAR'DUUS *helenioi'des*. Leaves embracing the stem, spear-shaped, toothed, fringed with small unequal thorns. Stem without thorns. LINN.—Root-leaves spear-shaped; stem-leaves sitting, heart-shaped, pointed, of a snowy white underneath. Stem mostly undivided. HUDS.—*Leaves rather serrated than toothed; stem-leaves heart-shaped at the base.* ST.

Hall. 7. at i. p. 77.—Mill. 94, only the upper leaves.—Clus. ii. 148. 2, repr. in Ger. em. 1183. fig. 2d, and cop in Park. 961. 5, J. B. iii. a. 46. 2, and Pet. 22. 2.—(Fl. dan. 109, is referred to by Hudson, but by Linnæus to *C. heterophyllus*.)

Differs from *C. heterophyllus*, which it very much resembles, in all the leaves being undivided, whitish, but not of a snowy whiteness underneath, the edge more unequally serrated and fringed; and the stem being twice as high; of the height of a man, more panicled, and beset with expanding hairs. LINN. hort. ups.—Root hardly creeping. Stem furrowed, with leaves all the way up. Leaves 40 to 50, half embracing the stem, toothed, not jagged, fringed with soft thorns, the ears at the base round, bent back, and growing to the stem; flower-leaves awl-shaped. LINN.—Stem seldom above a foot high, but in gardens it is generally double that height, and the leaves so much larger that it seems a different plant. Leaves shining above. MILL.—Stem 1 foot and a half high. SCOP.—Leaves spear-shaped, entire, toothed. HUDS.

Mountainous pastures in Yorksh. Westmoreland, Cumberland, and Wales. Coppice near Giggleswick, in Skirrith Wood, and in the pastures about Bordley, near Malham. CURT.—[Mill Gill near Ascrig in Wensleydale, and Skirrith Wood near Ingleton, Yorksh. Mr. WOOD.—Mulbarton, near Norwich. Mr. CROWE.—Between Shap and Orton, Westmoreland, Mr. WOODWARD.]

P. June. July.

β HALL. SCOP. HUDS. *C. heterophyllus*. Leaves embracing the stem, spear-shaped, fringed, entire and jagged. Stem with mostly 1 flower. Empalements without prickles. LINN.

Fl. dan. 109.—Hall. 7. at i. p. 77, it being very justly remarked on this figure by Scop. ann. ii. p. 60, that the upper and lower leaves are cut.

Stems somewhat branching, bearing from 1 to 6 flowers. Leaves downy underneath; root-leaves toothed, and wing-cleft: lower stem-leaves wing-cleft; middle ones toothed; upper entire. I have seen both varieties from the same root. HUDS.

CAR'DUUS

CAR'DUUS *pratensis*. Leaves fitting, half embracing *meadow* the stem, spear-shaped, somewhat toothed, fringed with small unequal thorns. Stem with mostly 1 flower. JACQ. HUDS. ST.—*Empalements with cobweb-like wool.* ST.

Pet. 22. 1.—*Lob. obs.* 314. 4, repr. in *ic.* i. 583. 1, *Ger. em.* 1183. fig. 3d, and cop. in *Park.* 961. 4, *J. B.* iii. a. 45. 2, and carelessly in *H. ox.* vii. 29. 12, but the teeth of the leaves too much like serratures.—*Clus.* ii. 148. 1, repr. in *Ger. em.* 1183. 5, and cop. in *H. ox.* vii. 29. 13.—(*H. ox. ib.* 11, is a copy of *Clus.* ii. 148. 2.)

Root fibrous, creeping. Stem single, herbaceous, 1 to 2 feet high, upright, leafy, cottony, undivided, or sometimes with a single branch. Root-leaves few, on leaf-stalks, spear-shaped, somewhat toothed, fringed with unequal prickles, tapering to a point, above roughish with hairs, underneath cottony; stem-leaves 3 to 7, alternate, fringed with unequal prickles, above roughish, underneath cottony, but not of a snowy whiteness. Flowers terminating, purple. Empalement egg-shaped, cottony; scales tiled, egg-shaped, tapering to a point, purplish. HUDS. ST.—*Bloss.* segments bright purple. Pointal bright purple, slightly cloven, much longer than the tips. Seed very short; feather nearly as long as the blossom, downy with long hairs. MR. WOODWARD.—Stem with 1 flower, and sometimes another from the bosom of the upper leaf. Root-leaves oblong-spear-shaped, toothed, and set with softish thorns; stem-leaves smaller, the upper not thorny at the edge, but terminated by a long softish thorn. Empal. scales thick and strong, cottony at the edges, terminating in a soft thorn. Blossom red. Tips with 5 horny, yellow, spear-shaped points. Summit cylindrical, blunt, not notched at the end. WITH.

Cirsium anglicum. R. fyn. 193.—*Carduus heterophyllus.* LIGHTF.—See descr. *C. diffusus*, Fl. angl. ed. i. (ST.)

Single-headed Thistle. English soft or gentle Thistle.

Marshy places. RAY. ST.—Moist meadows and pastures. [Near Heydon, Norfolk. Rev. MR. BRYANT.—Swampy meadows near Robinson's End Malvern Chace, Worcesterfh. MR. BALLARD. ST.]

CAR'DUUS *acaulis*. Stemless. Empal. smooth. dwarf

Clus. ii. 156. 1, repr. in *Lob. obs.* 480. 3; *ic.* ii. 5. 1, *Ger. em.* 1158, and cop. in *Park.* 969. 4, *J. B.* iii. a. 63. 1, *H. ox.* vii. 32. 12, and *Pet.* 21. 6.—*Barr.* 493.—*Trag.* 852, cop. in *Lonic.* i. 68. 1.

A dwarf plant, but spreading to the breadth of a foot. LINN.—Stem 1 to 3 inches high. Leaves lying close to the ground. Flower solitary, in the midst of the leaves. Feather long, downy. RELH.

—Root-leaves

—*Root-leaves* spreading in a circle, on leaf-stalks, with winged clefts; wings irregularly lobed, and waved, angular, thorny at the edge, green on both sides, hairy towards the base. *Flowering-heads* 1 or more, rarely fitting. *Fruit-stalks* 1 to 2 inches high, hairy. *Empal.* lower scales short, oval-spear-shaped, upper spear-shaped, stiff, without thorns. *Blossom* even with the tips. *Shaft* longer than the tips. *Summit* deeply cloven. *Seed* very small. *Feather* long, downy. Mr. WOODWARD.—*Blossom* purple.

Mountainous and rocky dry pastures, especially in a calcareous soil. Black Heath, near London. [Dry heaths and commons in Norfolk, very frequent. Dr. J. E. SMITH. Mr. WOODW.]

P. July.

Cows refuse it.

It kills all plants which grow beneath it, whence it is very injurious in meadows. LINN.

The different species afford nourishment to the *Cassida viridis* and *nebulosa*; *Papilio Cardui*; *Cicada cornuta*; *Cimex Cardui*; *Musca solstitialis*; and *Aphis Cardui*.*

* Haller divides this and the genus *Serratula* in the following manner, observing, and I think very justly, that a generic distinction cannot well be formed on the thorns or cotton of the empalement, as these differ only in degree. The following sub-division, however, may facilitate the investigation of species. St.

CARDUUS. Feather hair-like. HALL.

Species. *Serratula tinctoria*. *Carduus acanthoides*, *crispus*, *nutans*.

CIRSIIUM. Feather downy. HALL.

Species. *Carduus eriophorus*, *lanceolatus*, *palustris*, *Serratula arvensis*, *Carduus acaulis*, *Serratula alpina*, *Carduus helenoides*.

1006. ONOPOR'DUM. Argentine.

EMPAL. common, roundish; distended; tiled. Scales numerous; thorny; prominent every way.

BLOSS. compound, tubular; uniform. Florets with chives and pointals, equal.

Individuals; petal 1; funnel-shaped. Tube very slender. Border upright; distended; with 5 clefts. Segments equal; 1 more deeply divided.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder as long as the blossom, with 5 teeth.

POINT. Seed-bud egg-shaped. Shaft thread-shaped; longer than the chives. Summit crowned.

S. VESS. none. The Cup closes a little.

SEEDS solitary. Feather hair-like.

RECEPT. divided like a honey-comb into 4-cornered membranaceous cells.

ESS. CHAR. Receptacle like a honey-comb. Scales of the empalement sharp-pointed.

ONOPOR'DUM *Acan'thium*. Empalements scurfy; common scales expanding. Leaves egg-oblong, indented.—

Fuchf. 57, cop. in *J. B.* iii. a. 54. 2, *Trag.* 858, *Dod.* 721. 2, which repr. in *Ger. em.* 1174. 5, and indifferently cop. in *Park.* 979. 1, and *Pet.* 21. 10, and abridged in *Lonic.* i. 71. 2.—*Ger.* 988. 1 and 2.—*Dod.* 721. 1, repr. in *Lob. obs.* 476. 1; *ic.* i. 1. 1, *Ger. em.* 1149. 1, and imitated in *H. ox.* vii. 30. row 2. 1.—*Matth.* 671, just coming into flower.—*Lonic.* i. 70. 3, the root-leaves of which cop. in *H. ox.* vii. 30. row 1. 1.

Plant of a hoary green. Stem with a straight leafy border running up to the empalement. Empal. scales expanding, awl-shaped. Blofs. sometimes white. LINN. Mr. WOODWARD.—Plant generally covered with a white cotton, giving it a whitish green colour. Leaves oval-spear-shaped; the lower extremely large, with deep triangular teeth, which are again toothed, and each tooth terminated by a sharp whitish thorn, being productions of the ribs; the upper spear-shaped with a few distant teeth. Stem, leafy border irregularly toothed, and thorny, the thorns proceeding thro' and strengthening the border. Heads single, upright, terminating. Empal. scales ending in sharp thorns. Mr. WOODWARD.

Cotton Thistle.—On rubbish and road-sides.

B. July.
The

The Receptacle, and the young stems, are boiled and eaten like Artichokes.—The ancients thought this plant a specific in cancerous cases.—Cows, Sheep, and Horses refuse it.

1007. CARLI'NA. Carline.

EMPAL. *common*, distended; radiate; tiled. Scales numerous; flexible; sharp; the inner in a circle, very long; expanding; shining; coloured; forming rays to the compound flower.

BLOSS. *compound*, uniform; tubular. Florets with chives and pointals, equal.

Individuals; petal 1; funnel-shaped. Tube slender.

Border funnel-shaped; with 5 clefts.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seed-bud* short. *Shaft* thread-shaped; as long as the chives. *Summit* oblong; cloven or entire.

S. VESS. none. *Cup* unchanged.

SEEDS solitary; rather cylindrical. *Feather* downy; branched.

RECEPT. flat; set with cloven chaffy substances, 3 of which grow together.

ESS. CHAR. *Empalement with rays consisting of long coloured scales round the edge of the blossom.* LINN.—*Feather branched.* ST.

OBS. The *Carlina* is among the *Capitatae* what the *Xeranthemum* is among the *Discoideae*. ST.

wild CARLI'NA *vulgaris*. Stem with many flowers in a broad-topped spike. Flowers terminating. Rays of the empalement white, LINN.—or yellowish. Bot. Arrang. ed. I.

Math. 669.—*Clus.* ii. 156. 2, repr. in *Dod.* 739. 2, *Lob. obs.* 489. 1; *ic.* ii. 20. 2, *Ger. em.* 1159. 1, and *cop.* in *Park.* 981.

—*Fuch.* 121, *cop.* in *J. B.* iii. a. 81. 2, *Trag.* 859, *Dod.* 728. 1, and imitated in *Lonic.* i. 68. 2.—*Ger.* 997. 1.

It continues, after it is dead, unchanged even for the whole of the second year, a mournful spectacle! LINN.—*Root* long, spindle-shaped, with a few stiff fibres. *Stem* 12 to 15 inches high, swelling just above the root, cylindrical, ribbed, purple, slightly downy, dividing above in a rundle-like manner. *Leaves* very numerous,

numerous, cloathing the whole stem and decreasing in size upwards, the lower sitting, the upper embracing the stem, deeply toothed, the teeth armed with numerous yellow thorns; those at the base of each branch, larger than the upper stem-leaves; those of the branches smaller than the stem-leaves, the uppermost join and form the lower ones of the empal. *Empal.* scales purplish, edged and terminated with branching yellow thorns; the innermost strap-shaped, pointed at the end, dry, fringed with long hairs towards the base, straw-coloured within, without reddish brown towards the base, but straw-coloured at the point. *Bloss.* segments spear-shaped, purple, straw-coloured below. *Seed* woolly; *feather* sitting, rays 9 to 12, generally 11, either single, or with 2 or 3 clefts, fringed with long hairs. *Recept.* the chaff longer than the florets. Mr. WOODWARD.—*Bloss.* tube white, border in the outer florets purple, in the inner whitish. *Feather* pale brown, thrice as long as the seed, rays nearly equal, awl-shaped at the base, a little above it generally dividing into 3 and sometimes 4 bristle-shaped branches. The structure of the feather and chaff indicates the clearest proofs of a natural generic difference. ST.

Carduus sylvestris alter. Dod. 739. ST.

Wild Carline Thistle.—Dry meadows and pastures. B. June.

The flowers expand in dry, and close in moist weather. They retain this property a long time, and therefore are employed as hygrometers.—It is said to be an excellent remedy in hysterical cases. *Amæn. Acad.* III. p. 64.

Goats eat it. Cows refuse it. LINN.

It indicates a very barren soil. Mr. WOODWARD.

1012. B I' D E N S. Double-tooth.

EMPAL. *common*, upright; segments generally equal; oblong; concave and channelled.

BLOSS. *compound*, uniform; tubular. *Florets* with chives and pointals, tubular.

Individuals funnel-shaped. *Border* with 5 clefts; upright.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seed-bud* oblong. *Shaft* simple; as long as the chives. *Summits* 2; oblong; reflected.

S. VESS. none. *Cup* unchanged.

SEEDS solitary; blunt; angular. *Crown of the Seed* 2 or more awns, oblong; straight; sharp; rough with hooks turned backwards.

RECEPT. chaffy; flat. *Chaff* deciduous.

ESS. CHAR. *Receptacle* chaffy. *Feather of upright rough awns*. *Empalement* tiled. *Blossom* sometimes with 1 or 2 radiated florets.

trifid B I' D E N S *tripartita*. Leaves with 3 clefts. Empal. somewhat leafy. Seeds upright. LINN.—*Leaves often with 5 clefts*. CURT. MR. WOODWARD.

Curt. iv. 40.—*Blackw.* 519.—*Pet.* 20. 7.—*Dod.* 595. 1, repr. in *Ger. em.* 711. 1, and cop. in *Park.* 595. 7, and *H. ox.* vi. 5. 20.

Leaves, segments deeply ferrated, the middle one much the largest. *Empal.* scales oval, fringed with hairs, the inner smooth, with yellow membranaceous edges. *Seeds*, awns sometimes 3. MR. WOODWARD.—*Flowers* terminating, yellow.

Water Hemp. Water Agrimony.

Marshy and watery places.

A. July. Aug.

It dyes a tolerably good yellow.

Cows and Sheep eat it. Horses, Swine, and Goats refuse it.

β minima. HUDS.

There is a dwarf variety, distinguishable from *B. minima* as follows. *Root* simple. *Leaves* ferrated. *Empalement* leafy with many leaves. In *B. minima* the root is creeping, the leaves either very entire, or at least only scolloped (crenata) and only 2 leaves at the base of the empalement. RETZ. *obs.* i. n. 94.—I apprehend Retzius to be mistaken, Mr. WOODWARD—for the following reasons,
unless

unless we suppose the *B. minima* to be a distinct plant from that figured in *R. syn.* 7. 2, at p. 188, to which Linnæus refers. In this figure there are 3 leaves at the base of the empalement, the root is branched but not creeping, and the leaves are serrated. In *Fl. dan.* 312, also referred to by Linnæus, there are 3 leaves at the base of the empalement, and some of the leaves are serrated. I have never seen any plant of *B. tripartita* less than 10 inches high, but it is possible there may be starved plants of this species as small as those of *B. cernua*. ST.

Bidens minima. LINN.—*Bidens cernua minima*, which see.

B I ' D E N S *cer'nua*. Leaves spear-shaped, embracing the stem. Flowers on crooked fruit-stalks. Seeds upright. *nodding*

Curt. ii. 32.—*Fl. dan.* 841.—*J. B.* ii. 1074.—*Ger.* 574.—*Pet.* 20. 6.—*Lob. adv.* 227, repr. in *ic.* i. 529, but some of the leaves scattered instead of opposite.—(*H. ox.* vi. 5. 22. is 1.)

Leaves with distant serratures. Flower-leaves very entire. Seeds with 4 awns, 2 of which are larger. Mr. WOODWARD.—Stem a little hairy. Leaves opposite. Empal. segments egg-spear-shaped, with black lines. Blossom and summits yellow. Tips brown. Seed-bud pyramidal, with 4 corners; awns 4, with prickles pointing downwards. WITH.

Wet ditches, marshy places.

A. July. Aug.

Goats eat it. Horses refuse it.

β HALL.—*Bidens*. HUDS. Mr. WOODW.—*Coreopsis Bidens*. Leaves spear-shaped, serrated, opposite, embracing the stem. LINN.

Fl. dan. 841, the three shortest of the branches.—*Barr.* 1209.—*H. ox.* vi. 5. 22.*

If it should be proved by observation to be a *Bidens*, let it be referred to that genus, if it be constant to remain as a species of *Coreopsis*. LINN.—Frequently on the same plant with α. Mr. WOODWARD.—Differs in no respect from α except in the presence of radiated florets in the circumference. These florets are wanting in some of the species of *Senecio*, &c. HALL.—The *Bidens* and *Coreopsis* are truly one genus. ST.

In England, and very frequent in Ireland. *R. syn.* 187. n. 2. —About Tarporley and other places in Cheshire. HUDS.—[Norfolk, but not common. At Ditchingham. Mr. WOODWARD.]

γ HALL. LIGHTF. CURT. Mr. WOODWARD. ST.

Bidens minima. Leaves spear-shaped, sitting. Flowers and seeds upright. LINN.—Flowers sometimes nodding. LIGHTF. ST.

* Florets of the circumference short and oval. Mr. WOODWARD.

Curt. iii. 32. f. 8.—*Fl. dan.* 312.—*Ray* 7. 2, the largest. Of nearly equal excellence.

Is often seen growing abundantly mixed with *B. cernua*. In the dry summer of 1779 many plants of this variety appeared in a pond in my garden then much dried up, on the borders of which the *cernua* always grew in great plenty, but amongst which I have never observed a single plant of *B. tripartita*. *Mr. Woodw.*—Is either an autumnal seedling from an early plant of the *B. cernua*, or rendered dwarfish by accident in its growth. *LIGHTFOOT.*—Root fibrous. Stem upright, simple, cylindrical, furrowed above, with 1 flower, 3 to 4 inches high. Leaves spear-shaped, serrated, opposite. Flower slanting. *Empal.* leaves several, egg-spear-shaped, pointed, yellowish, with many black lines, as long as the florets. Seeds wedge-shaped, 4-cornered; awns 4, with prickles pointing backwards. *B. cernua* grew with it in considerable quantities, and they appeared to run into one another, or rather, to be one and the same species, differing only in size and the number and inclination of the flowers. *ST.*

In the fish pond on the moor near Somerset Bridge, Surrey. *DILL.* in *R. fyn.*—[In a splashy rivulet at the bottom of Tittenfor Common, Staffordshire, and also near **Birmingham.** *ST.*]

A. [Oct. *ST.*]

1015. EUPATORIUM. Hemp-weed.*

EMPAL. common, oblong; tiled. Scales between strap and spear-shaped; upright; unequal.

BLOSS. compound,, uniform; tubular. Florets with chives and pointals, equal.

Individuals funnel-shaped. Border with 5 clefts; open.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud very small. Shaft thread-shaped; very long; cloven down to the chives; straight. Summits slender.

S. VESS. none. Cup unchanged.

SEEDS oblong. Feather downy; long.

RECEPT. naked.

* *Liver-hemp* might seem to indicate a species of *Cannabis*. *ST.*

ESS. CHAR. *Receptacle naked. Feather downy. Empalement tiled, oblong. Shaft cloven half way down, long.*

* *Empalements with 5 flowers.*

EUPATO'R IUM *cannabi'num*. Leaves fingered, common LINN.—sometimes simple. ST.

Fl. *dun.* 745.—*Blackw.* 110.—*Fuchf.* 265, *cop.* in *J. B.* ii. 1065. 2, imitated in *Trag.* 491, and *Lonic.* i. 241. 2.—*Matth.* 1015, *cop.* in *Dod.* 28. 2, *Lob. obs.* 285. 1; *ic.* i. 528. 2, *Ger. em.* 453. 2, and *cop.* again in *H. ox.* vii. 13. 1.—*Park.* 595.

Stem 3 or 4 feet high, branched. *Leaflets* mostly 3, sometimes 5, spear-shaped, sharply serrated at the base, and towards the point very entire. *Empal.* scales few, strap-shaped. *Seeds* black, scored, smooth, little more than a line long. *Feather* fitting, hair-like, when viewed with a glass finely toothed, not 3 lines long. Mr. WOODW.—Stem reddish, rather cylindrical, slightly woolly. *Leaves* serrated, slightly woolly. *Empal.* skinny, coloured, a little hairy. *Florets* 5 and 6. *Bloss.* purplish red, clefts shallow. *Shafts* and *summits* with a tinge of red. *Seed-bud* with minute shining globules. *Feather* of a silvery whiteness; when viewed in a glass barbed. WITH.

Hemp Agrimony. Dutch Agrimony. Water Agrimony. Water Hemp.
Banks of rivers and brooks. P. July. Aug.

β DILL. HUDS. Leaves single, egg-spear-shaped.

This is the seedling plant of early flowers the first year, and the second year, as I have frequently observed, it has fingered leaves. Mr. WOODWARD.—The lower leaves fingered. DILL. in R. syn.—*Leaves* with sometimes an expanding segment on one side. In some plants, where the main stem has been injured, the stem-leaves have been fingered, and the branch-leaves simple. ST.

Near Lee in the road to Eltham. DILL.—[Near Bungay. Suff. Mr. WOODWARD.]

An infusion of a handful of it vomits and purges smartly. An ounce of the root in decoction is a full dose. In smaller doses the Dutch peasants take it as an alterative and as an antiscorbutic.

Goats eat it. Cows, Horses, Sheep, and Swine refuse it.

1022. SANTOLI'NA. Cotton-weed. (Ger.)

EMPAL. common, hemispherical; tiled. Scales egg-oblong; pointed; laid to.

BLOSS. compound, uniform; longer than the empalement. Florets with chives and pointals; equal; numerous. Individuals funnel-shaped; border with 5 clefts, rolled back.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud 4-cornered; oblong. Shafts thread-shaped; as long as the chives. Summits 2; oblong; depressed; lopped.

S. VESS. none. Empalement unchanged.

SEEDS solitary; oblong; 4-cornered. Feather none.

RECEPT. chaffy; flattish. Chaff concave.

ESS. CHAR. Receptacle chaffy. Feather none. Empalement tiled; hemispherical.

sea SANTOLI'NA *maritima*. Fruit-stalks with 1 flower, in a kind of broad-topped spikes. Leaves oblong, cottony. HUDS.

Mill. 135.—J. B. iii. a. 157. 2, cop. in Pet. 20. 8.—Lob. adv. 201, repr. in ic. i. 430. 1.—Ger. 516.—Chuf. i. 329. 3, repr. in Dod. 65, Ger. em. 640. 3.—Matth. 860, not in flower.—H. ox. vi. 4. 47.

Whole plant cottony. Leaves spear-shaped, fcolloped, blunt. Chaff as long as the empalement. Seeds 2-edged, without a feather, whence it should seem to be rather a species of *Santolina*. It is an intermediate plant between this and *Athanasia*. LINN.—Blossom yellow and white.

Athanasia maritima. LINN.

Sea Cudweed.—On the sea shore. Near Abermeney Ferry in Anglesea; and between Pensans and St. Michael's Mount, Cornwall. Isle of Shepey; and near Pool, Dorsetsh. P. July.

Order II.

POLYGAMIA SUPERFLUA;
SUPERFLUOUS POINTALS.

1024. TANACE'TUM. Tanfy.

EMPAL. common, hemispherical; tiled. Scales sharp; compact.

BLOSS. compound, tubular; convex. Florets with Chives and Pointals, numerous; tubular; placed in the centre. Florets with only Pointals, a few in the circumference.

Individuals with Chives and Pointals, funnel-shaped. Border with 5 clefts; reflected.

Individuals with only Pointals, with 3 clefts; more deeply divided on the inner side.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud, where there are chives and pointals, oblong; small. Shaft thread-shaped; as long as the chives. Summit cloven; rolled back. Seed-bud where there are only pointals, oblong. Shaft simple. Summits 2; reflected.

S. VESS. none. Cup unchanged.

SEEDS solitary; oblong; naked.

RECEPT. convex; naked.

ESS. CHAR. Receptacle naked. Feather with sometimes a shallow border. Empalement tiled; hemispherical. Blossom of the florets of the circumference obscure, with 3 clefts,—sometimes wanting, and all the florets with chives and pointals.

TANACE'TUM vulga're. Leaves doubly winged, common cut, serrated.—

Ludw. 22.—Fl. dan. 871.—Dod. 36. 1, repr. in Lob. obs. 432.

1; ic. 749. 1, Ger. em. 650. 1, and cop. in Park. 81. b.—

H. ox. vi. 1. row 1. 1. f. 1, and Pet. 20. 9.—Blackw. 464.

—Fuchf. 46, *cop. in J. B. iii. a. 131. 2.*—Ger. 525. 1.—
Trag. 158.—Math. 908.—Lonic. i. 151. 3.—(Gmel. ii. 65.
 1, is a distinct variety.)

The *florets* of the circumference sometimes appear in warm summers. LINN.—*Flowers* in broad-topped spikes. *Florets* yellow, those with chives and pointals with 5 clefts, those with pointals with 3 clefts. RELHAN.—*Stem* frequently reddish. *Leaves* winged, leaflets with winged clefts, wings spear-shaped, deeply and acutely serrated. *Broad-topped spikes* terminating, almost globular. Mr. WOODWARD.

Tanfy.—Mountainous meadows and pastures, road sides, and borders of corn fields. [Banks of rivers and swampy places. ST.]
 P. July. Aug.

This is a warm dcobstruent bitter, and its flavour not ungrateful.—The tender leaves are sometimes used to give a colour and flavour to puddings.—If a dead animal substance is rubbed with this plant, the flesh fly will not attack it.—The Finlanders obtain a green dye from it.

Cows and Sheep eat it. Horses, Goats, and Swine refuse it.

It gives nourishment to the *Aphis Tanaceti*, and *Chrysomela Tanaceti*. LINN.—The seeds are an excellent vermifuge.

β Leaves curled.

Ger. 525. 2.—Dod. 36. 2, *repr. in Lob. obs. 432. 3; ic. i. 749. 2*, Ger. em. 650. 2.—Park. 81. a.—J. B. iii. 132.

1025. ARTEMIS'IA. Southernwood.

EMPAL. common, roundish; tiled. Scales rounded; approaching.

BLOSS. compound. Florets with Chives and Pointals, many; tubular; placed in the centre. Florets with only Pointals, and almost without a petal, in the circumference.

Individuals with Chives and Pointals, funnel-shaped; border with 5 clefts.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud in those that have chives and pointals small. Shaft thread-shaped; as long as the chives. Summit cloven; rolled back.

In the florets that have only pointals the Seed-bud is very small. Shaft thread-shaped, and longer than in the others. Summit the same.

S. VESS. none. Cup hardly changed.

SEEDS in all the florets solitary; naked.

RECEPT. flat; naked; or woolly.

ESS. CHAR. Receptacle somewhat woolly or nearly bare.

Feather none. Empalement tiled, with rounded approaching scales. Bloss. of the florets of the circumference wanting.

* Stems trailing before the time of flowering.

ARTEMIS'IA *campest'ris*. Leaves with many clefts, field strap-shaped. Stems trailing, rod-like.—

Ger. 948. 5, Abrot. camp.—J. B. iii. a. 194. 2, cop. in Pet. 20.

4.—Dod. 33. 2, repr. in Lob. obs. 442. 3; ic. i. 767. 2, Ger.

1106. 5, cop. in Park. 94. 7.—Matth. 852, cop. in Lonic. ii.

23. 2.

Branches simple, alternate, from the bosom of the leaves, somewhat nodding. Flowers solitary, pointing one way. The florets with pointals mostly 9, those with chives and pointals 8. Summits orbicular, glass shaped. Receptacle naked. LINN.—Stems numerous, angular, declining, much branched. Branches opposite, the middle ones longest. Leaves, the upper frequently simple, very narrow. Heads very small, scarcely more than a line broad, numerous, single, either sitting or in short branched spikes. Empal. scales few, bluntly egg-shaped, approaching, green, slightly downy at the back, the edges membranaceous, whitish, shining.

Florets not longer than the empalement. Mr. WOODWARD.—
Blossom brown.

Balks of corn fields and road sides at Elden, Suffolk, and a mile from Barton Mills on the road to Lynne. [Near Thetford on the side of the road to Norwich. Mr. WOODWARD.] P. July. Sheep refuse it.

sea ARTEMIS'IA *maritima*. Leaves with many clefts, cottony. Bunches on crooked fruit-stalks. The florets which have only pointals 3.*

Ger. 940. 1.—Pet. 20. 2.—Lob. ic. i. 755. 1, repr. in Ger. em. 1099. 1, and cop. in H. ox. vi. 2. 20.—H. ox. vi. 2. 19.

Whole plant white, of a snowy white. Flowering-branches crooked. The flowers with only pointals, in the circumference, but 3. Receptacle naked. The seeds seldom ripen in gardens. LINN.—Whole plant white, with thick cotton. Leaves vary much in their division; the upper generally simple, strap-shaped, blunt. Mr. WOODWARD.—Leaves more or less divided in different situations. *Blossom* brown.

Sea Wormwood.—Sea shores. [Yarmouth, and elsewhere on the coast. Mr. WOODWARD.] P. Aug.

This in its wild state smells like Marum or Camphor, but in our gardens it is less grateful, though still much more grateful than the next species. It is used as an ingredient in distilled waters, and beat with thrice its weight of fine sugar it is formed into a conserve. Its virtues are the same with those of the next species, but in a weaker degree.

Horses eat it. Cows, Goats, and Sheep refuse it.

γ Pet. 20. 3.

Near Sheerneys in the Isle of Shepey. R. syn.

δ HUDS.—J. B. iii. a. 177.—Barr. 460.

Harwich on the marsh banks on the west side of the town, and in Mersey Island. Sheerneys in the Isle of Shepey. R. syn.

** Stems upright, herbaceous. Leaves compound.

Wormwood ARTEMIS'IA *Abinthium*. Leaves compound, with many clefts. Flowers somewhat globular, pendant. Receptacle woolly.—

Ludw. 76.—Blackw. 17.—Matth. 685, cop. in Dod. 23, which repr. in Lob. obs. 433. 2; ic. i. 752. 1, Ger. cm. 1096. 1, Park. 98. 1, and H. ox. vi. 1. row 3. 1; and also in Ger. 937. 2, and

* Linnaeus has written *ternis*, but it should have been *tribus*.

and imitated in *Trag.* 335, *Ger.* 937. 1, and *Pet.* 20. 1.—*J. B.* iii. a. 168.—*Gmel.* ii. 63.

Receptacle hairy. LINN.—*Leaves* cottony on both sides, green above, white and shining underneath, the upper with 3 clefts, or simple, sitting, bluntly spear-shaped. *Empal.* scales bluntly egg-shaped, green, and cottony at the back, the edges membranaceous. *Receptacle* down as long as the florets. MR. WOODWARD.—*Stems* scored, whitish with very short down. *Leaves* silky and very soft; segments blunt, and the lower on long flat leaf-stalks. *Spikes* upright. *Flowers* turned downwards. WITH.—*Leaves* dark green on the upper, but white on the under surface. *Bloss.* brownish white.

Wormwood.—Road sides, rocky places, and on rubbish. P. Aug.

The leaves and flowers are very bitter; the roots are warm and aromatic. A considerable quantity of essential oil rises from it in distillation. This oil is used both externally and internally to destroy worms.—The leaves, put into sour beer, soon destroy the acescency.—They resist putrefaction, and are therefore a principal ingredient in antiseptic fomentations. An infusion of them is a good stomachic, and with the addition of fixed alkaline salt, a powerful diuretic in some dropical cases.—The ashes afford a more pure alkaline salt than most other vegetables, excepting Bean-stalks, Broom, and the larger trees.—In the *Amæn. Acad.* v. 2. p. 160, Linnæus mentions two cases, wherein an essence prepared from this plant, and taken for a considerable time, prevented the formation of stones in the kidneys or bladder; the patients forbearing the use of wine and acids. It will, like other bitters, weaken the action of the nervous system, but in these instances no such effect took place.—An infusion of it given to a woman that suckles, makes her milk bitter.—It gives a bitterness to the flesh of Sheep that eat it.

Horses and Goats are not fond of it. Cows and Swine refuse it. LINN.—Turkeys are fond of it. MR. HOLLEFEAR.—A Horse eat it.

The plant steeped in boiling water, and repeatedly applied to a bruise, will remove the pain in a short time, and prevent the swelling and discoloration of the part. ST.

ARTEMIS'IA *vulgaris*. Leaves with winged clefts, *Mugwort* flat, cut, cottony underneath. Bunches simple, bowed backwards. Florets of the circumference 5.—

Ludw. 153.—*Blackw.* 431.—*H. ox.* vi. 1. row 2. 2. f. 3.—

Math. 243, *cop.* in *Dod.* 33. 1, which repr. in *Lob. obs.* 441.

1; *ic.* i. 764. 2, *Ger. em.* 1103. 1, and *cop.* in *Park.* 90, and

51. 2.—*Ger.* 945. 1. 2.—*Fuchf.* 44, *cop.* in *J. B.* iii. a. 184.

3, and imitated in *Trag.* 344.—*Lonic.* i. 151. 1.

Receptacle naked. LINN.—*Stem* angular, scored, often red, downy above. *Leaves* above, green and slightly cottony; underneath white with thick cotton; wings oval-spear-shaped, deeply ferrated, almost lobed, the terminating one large, with 3 lobes. *Empal.* scales extremely woolly; edges not membranaceous. *Florets* longer than the empalement. MR. WOODWARD.—*Stems* ascending, branched, scored, reddish purple. *Leaves* dark green and smooth above, cottony and whitish underneath. *Fruit-stalks* alternate, from the bosom of the leaves. *Blossom* purplish. WITH.

Mugwort.—Borders of fields, ditch banks, and on rubbish.

P. Aug.

In some countries it is used as a culinary aromatic.—A decoction of it is taken by the common people to cure the Ague.

The Chinese make use of it in healing wounds, applying the fresh plant bruised. OSBECK i. 394.—A dram of the leaves powdered, was given four times a day, by Dr. Home, to a woman who had been affected with hysteric fits for many years. The fits ceased in a few days. In this patient *Assafœtida* and *Æther* had been given to no purpose.

Sheep and Swine refuse it. Neither Horses, Cows, or Goats are fond of it. LINN.

The *Aphis Absinthii*, and the *Phalæna Gamma*, live upon the several species.

*** *Leaves simple.*

bluish ARTEMIS'IA *carulef'cens*. Stem-leaves spear-shaped, entire; root-leaves with many clefts. Flowers with only pointals, 3.—

H. ox. vi. 1. 5.—*Dod.* 26. 2, repr. in *Lob. obs.* 441. 2; *ic.* i. 765. 2, *Ger. em.* 1104. 3.—*Matth.* 687, ill cop. in *Ger.* 946.

Leaves woolly on both sides. *Flowers* cylindrical, nodding. *Florets* of the circumference 3. Hence its very close affinity to *A. maritima*, from which however it differs totally in its leaves. LINN.

Sea shores. Near Boston in Lincolnshire.

P. Aug.

1026. GNAPHAL'IUM. Cudweed.

EMPAL. common, roundish; tiled. Scales egg-shaped; approaching; the upper more flexible.

BLOSS. compound. Florets with Chives and Pointals, tubular; sometimes mixed with the other florets, without either chives or petals.

Individuals with Chives and Pointals funnel-shaped. Border with 5 clefts; reflected.

Individuals with only Pointals, without petals.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud where there are chives and pointals egg-shaped. Shaft; thread-shaped, as long as the chives. Summit cloven.

Seed-bud, where there are only pointals, egg-shaped. Shaft thread-shaped; as long as the other. Summit cloven; reflected.

S. VESS. none. Cup permanent; shining.

SEEDS in all the florets solitary; oblong; small; crowned with a Feather.

RECEPT. naked.

ESS. CHAR. Receptacle naked. Feather downy. Empalement tiled; the scales at the edge of the empalement rounded; skinny; coloured.

Obs. In some species the Feather is hair-like; in others downy. In one species the Chives and Pointals are on distinct plants.

* Herbaceous, Goldilocks.

GNAPHAL'IUM *lu'teo-album*. Herbaceous. Leaves sword-shaped; half embracing the stem; serpentine at the edge; blunt; downy on both surfaces. Flowers crowded close together.— *Jersey*

Fluk. 31. 6.—Barr. 367.—J. B. iii. a. 160. 2, cop. in Pet. 18.

5.—Ger. 522. 3.—Clus. i. 329. 1, repr. in Ger. em. 643. 13, and cop. in Park. 686. 6, and H. ox. vii. 11. row 2. f. 3d.—

Lob. ic. i. 485. 2, cop. in Park. 688. 9.

Plant very woolly. Empalement yellowish, white, soft; scales egg-spear-shaped. Florets with only Pointals in the circumference numerous. LINN.—Florets of the circumference with only pointals; in the centre a few with chives and pointals. HALL.

Chrysocome

Chrysocome Galeni. Ger. 522.—*Gnaphalium oblongo folio.* Ger. em. 643.—*Gnaphalium supinum oblongo folio.* Park. 686.—*Helichrysum seu Chrysocome annua sylvestris capitulis minoribus conglobatis.* H. ox. III. p. 88. n. 20. ST.

Everlasting. Live-for-ever.

Dry banks and walls in the Island of Jersey, very common. R. syn.—Sea coast of Wales. GER. em.—West sea coasts. PARK.

A. July. Aug.

A Horse refused it. ST.

** *Herbaceous, Silverlocks.*

American **GNAPHAL' IUM** *americanum.* Herbaceous. Leaves strap-spear-shaped, tapering; alternate. Stem branched towards the top. Flowers in level broad-topped spikes.—

Munt. 614. 170.—Clus. i. 327. 3, repr. in Ger. em. 641. 8, and cop. in Pet. 18. 3.—J. B. iii. a. 162. 2.—Park. par. 373. 3.

Florets with chives and pointals, and a few with only pointals. HALL.—*Stem* extremely cottony, white. *Leaves* numerous, strap-spear-shaped, long, sitting, growing without order; very entire, dark green and naked above, underneath greenish white, with a thick cotton. *Flowering-branches* with numerous crowded heads at the end on short branched cottony fruit-stalks, with a middle one sitting. *Empalement* bluntly egg-shaped, white, not cottony. *Feather* simple, sitting, as long as the empalement. MR. WOODWARD.

Meadows, pastures, and banks of rivers.

P. Aug.

Cat'sfoot **GNAPHAL' IUM** *dioicum.* Runners trailing. Stem undivided. Flowers in a simple broad-topped spike. Chives and pointals on distinct plants.—

barren LINN. Plant with barren flowers. ST.—Dod. 68. 1. 2, repr. in Lob. ic. i. 433. 1. 2, and Ger. em. 640. 4 and 5.

fertile LINN. Plant with fertile flowers.—Lightf. 20. 1. at p. 471.—Ludw. 163.—Clus. i. 330. 1, repr. in Dod. 68. 3, Lob. ic. i. 433. 3, Ger. em. 641. 6, and cop. in Park. 690. f. 5, and Pet. 18. 4.—Fuchf. 606, cop. in J. B. iii. a. 162. 3, and imitated in Lonic. i. 95. 2.—H. ox. vii. 11. row 3. f. 2.—Trag. 332.—Garid. 30. at p. 168.—Ger. 516. 4, 5, 6.—Lob. adv. 202. 2, cop. in ic. i. 482. 2.

In the barren plants the heads almost globular; in the fertile ones nearly cylindrical. LINN.—The flowers with chives and pointals should seem to be unfruitful. HALL.—In my specimens of the flowers with only pointals the seeds are imperfect, and in those with chives and pointals there are none. I believe it is rarely that ripe seeds are produced at all, as is the case with many plants which creep at the

the root. *Root* woody, brown, with a few stiff fibres. *Runners* several, creeping, leafy, from the crown of the root. *Root-leaves* in a thick tuft, oval at the end, tapering below into a long leaf-stalk, green and slightly hairy above, underneath white with a thick cotton; *stem-leaves* numerous, strap-shaped, half embracing the stem, green above, white and cottony underneath. *Stems* upright, simple, 3 to 7 inches high, white, cottony. *Heads* 3 to 8, on short fruit-stalks. *Empal.* scales blunt, the outer short, green, cottony; the inner widening upwards, long, smooth, shining, white, frequently tinged with purple; in the barren plants shorter. *Seeds* short; *feather* sitting, with simple rays, that of the fertile plants longer than the empalement; that of the barren plants not exceeding the empalement. Mr. WOODWARD.—*Blossom* white, purple, reddish.

Cat'sfoot.—Dry mountainous pastures in the North of England, Wales and Cornwall, and on Newmarket Heath not far from Botolpham Beacon. [Canham Heath near Bury, Swaffham Heath, Stratton Heath, Norfolk. Mr. PITCHFORD.] P. May. June.

Horses, Sheep, and Swine eat it. Cows and Goats refuse it.

*** Resembling the *Filago's*.

GNAPHAL'IUM *ylvaticum*. Stem herbaceous, upright undivided, upright. Flowers scattered.—

Matth. 1194, imitated in *Ger.* 515. 1, which cop. in *Ger. em.* 639.

1, and abridged in *H. ox.* vii. 11. 1.—*Lob. adv.* 202. 1, repr.

in *ic.* i. 482. 3, *G. angl.* and improved in *Pet.* 18. 6.—*J. B.* iii.

a. 160. 1.—*tl. dan.* 254.*—*Scop.* 56, at ii. p. 151.

Flowers with only pointals numerous; *flowers* with chives and pointals 4 or 5. HALL.—*Leaves* green and hairy above, white and cottony underneath; *root-leaves* long, strap-spear-shaped, very narrow, in open ground forming a thick tuft; *stem-leaves* strap-shaped, embracing the stem, numerous. *Stem* in woods frequently solitary, 12 to 18 inches high, in open ground several from one root, shorter, often at first declining, but very soon ascending. *Flowers* in a long bunch. *Flower-stalks* very short, lateral, from the bosom of the leaves, with from 1 to 5 or more flowers, the lowermost somewhat distant, the upper crowded. *Flower-leaves* similar to, but smaller than the stem-leaves. *Heads* very small. *Empalement* bluntly oval, greenish at the base, yellowish brown upwards, smooth, with shining edges; the outer short, the inner as long as the florets. *Seeds* minute; *feather* sitting, as long as the empalement; rays

* Much too large. Leaves too broad and spear-shaped. Mr. WOODW. ST.

rays simple. Mr. WOODWARD.—Stem sometimes only 3 inches high. Florets with chives and pointals 3. Feather hair-like. ST.—Leaves narrow, sharp, downy underneath. Cups white, shining. Blossom yellowish.

Pastures and woods in a sandy soil.—Rough pastures near Fladbury, Worcestershire. NASH.—[On the great Island in Winan-dermere. Armingdale Wood near Norwich. Mr. WOODWARD.—Sandy heath a mile from Shiffnall on the road to Wolverhampton. Banks of the canal in the parish of Coseley, Warwicksh. ST.]

B. Aug.

Goats eat it.

dwarf GNAPHAL'IUM *supinum*. Stem herbaceous, undivided, trailing. Flowers scattered.—

Lightf. 20. 2. at p. 471.—Scop. 57. at ii. p. 152.—Bocc. rar. 20. 1. at p. 41, is referred to by Haller —(Lob. obs. 256. 1, repr. in ic. i. 484. 2, more resembles my specimens of *Filago Leontopodium*.)

Florets with mostly pointals, but a few in the centre of the disc with chives and pointals. LIGHTF.—Root-leaves strap-spear-shaped, slightly hairy above, underneath cottony, and greenish white, one half to three quarters of an inch long, in tufts; stem-leaves sitting, narrower and longer. Stem one and a half to three inches high. Heads 3 and 4, much larger than those of *G. sylvaticum*, alternate, either sitting, or on short cottony fruit-stalks, from the bosom of the upper leaves, which are not longer than the heads. Empal. scales spear-shaped, with a green longitudinal line at the base; the tips and edges shining, of a brownish yellow. Seeds elliptical; feather sitting, rays simple, as long as the florets and longer than the empalement. Specimen from Dr. Smith gathered on Ben Lomond. Mr. WOODWARD.

Gnaphalium alpinum? LIGHTFOOT.

Dry mountainous pastures and meadows. At the foot of a hill 5 miles from Fort George, on the West side of the road to Aberdeen. Tops of the Highland Mountains not unfrequent. [On the top of Ben Lomond. Dr. SMITH.] P. July. Aug.

black-headed GNAPHAL'IUM *uliginosum*. Stem herbaceous, branched, spreading. Flowers crowded, terminating.—

Fl. dan. 859.—H. ex. vii. 11. 14. f. 4, right hand branch good.—Dod. C5. 3, repr. in Lob. ic. i. 481. 1, Ger. em. 639. 2, and cop. in Park. 686. 4.—Pet. 18. 7.—Ger. 515.

Stem 3 to 9 inches high or more, upright, with a thick white cotton, much branched; branches spreading, more cottony and thicker

thicker towards the end, the lower often trailing, cloathed with numerous leaves, particularly towards the end, and these thickest and most cottony. *Leaves* elliptical, tapering into a long leaf-stalk, slightly cottony and greenish above, more cottony and whitish underneath. *Flowers* nearly fitting. *Empal.* scales spear-shaped, smooth, brown, shining, when in seed blackish, almost hid in the cotton. *Feather* fitting, with simple rays, as long as the empalement. Mr. WOODWARD.—Whole *plant*, particularly the base of the cups and fruit-stalks, covered with a cottony substance. *Leaves* strap-shaped. *Flowers* globular. *Empalement* shining, yellowish-brown-green; *scales* skinny, inner ones oblong. *Feather* as long as the floret, not downy. WITH.—*Empalement* brown or black. *Bloss.* yellowish.

In watery places, especially where stagnant water has stood during the winter. A. Aug.

Cows and Goats refuse it.

GNAPHAL'IUM *gal'licum*. Stem herbaceous, *grass-leaved* forked, upright. Flowers awl-shaped, from the bosom of the leaves. Leaves thread-shaped. HUDS. ST.

Pluk. 298. 3, *cop.* in *Pet.* 18. 12.—(*H. ox.* vii. 11. 14. f. 4, is *G. uliginosum*.)

Leaves somewhat cottony, but smooth, not hairy. LINN.—*Florets* with chives, and *florets* with pointals. HALL.—Whole *plant* cottony, but the cotton shorter than either that of the *germanicum* or *montanum*. Stem much branched. *Leaves* awl-shaped, half embracing the stem, about an inch long. Mr. WOODWARD,

Filago gallica. LINN.

Gravelly corn fields. In sandy ground about Castle Haveningham, Essex. [Heaths, Derbyshire. Mr. WOODWARD.]

GNAPHAL'IUM *monta'num*. Stem herbaceous, *leaf* somewhat forked. Flowers conical, from the bosom of the leaves, and terminating. HUDS. ST. *Notes Sept.* 9, 1777.—Seeds of the circumference without a feather. ST.*

Pet. 18. 11.—*H. ox.* vii. 11. 3. a.—*Ger.* 517. 8.—*Lob. ic.* i. 481. 2, *repr.* in *Ger. em.* 641. 9, and *cop.* in *J. B.* iii. a. 159. and *H. ox.* vii. 11. 3. b.

Stem much branched, cottony. *Leaves* spear-shaped, fitting, pressed to the stem, cottony, 3 or 4 lines long. Mr. WOODW.—*Stems* upright or spreading, 2 to 6 inches high. *Leaves* pressed to. *Heads* roundish, sometimes from the sides, with from 3 to 5 flowers. *Flowers* pyramidal, 5 cornered, fitting or on very short fruit-

* Seminibus radialibus nudis, ST.

fruit-stalks. *Florets with chives and pointals* 4, in the very centre, fertile; *with pointals* about 15 in the disc and 4 or 5 in the circumference lying within the scales of the common empalement, all fertile. *Tips of the florets with chives and pointals* 4, with 2 bristles at the base. *Bloss.* clefts 4. *Seeds* of all the florets of the centre sprinkled with very short glandular hairs, crowned with a feather; those of the florets of the circumference very smooth and without a feather. *Feather* hair-like. Hence it appears that one species at least of Linnæus's *Filago* belongs to the *Polygamia Superflua* class, according in structure as well as habit with the *Gnaphalium*s. ST.—*Leaves* numerous, cottony. *Bloss.* yellowish brown.

Filago montana. LINN.

Sandy meadows and pastures.

A. July. Aug.

Sheep eat it. Goats and Cows refuse it.

common GNAPHALIUM *germanicum.* Stem herbaceous, upright, branched. Panicle forked. Heads rounded, from the bosom of the leaves and terminating. HUDS. ST. *Notes* Sept. 2, 1777.—*Heads* globular. LINN. ST.

Sheldr. 92.—*Park.* 685. 3, *cop.* in *Pet.* 18. 10.—*Fuchs.* 222, *cop.* in *J. B.* iii. a. 158, and imitated in *Lonic.* i. 174. 3.—*Matth.* 361.—*Dod.* 66. 2, *repr.* in *Lob. obs.* 255. 1; *ic.* i. 480. 2, *Ger. em.* 642. 10, *abridged* in *H. ox.* vii. 11. 10, and *Pet.* 18. 9.—*Ger.* 517. 9.

Empalement 5-cornered. *Florets with pointals* not within the common empalement, but between the scales of the empalement. LINN.—*Seeds* with a feather. REICH. MR. WOODWARD.—*Stem* sometimes upright, undivided, and the flowers which are in the bosom of the leaves sitting. HUDS.—*Stems* several, the central one thickest and tallest, leafy. *Leaves* strap-spear-shaped, sitting, waved, cottony. MR. WOODWARD.—*Branches* horizontal, mostly 2 and sometimes 3 from below the head terminating the stem, each terminated by similar heads, from the base of which other branches proceed, subdividing several times so as to appear forked. *Flowers* 5-cornered. *Florets* of 3 kinds. FLORETS OF THE CENTRE OF THE DISC 2 or 3, with chives and pointals, tubular; border with 4 clefts. *Seed-bud* with a feather. FLORETS OF THE SIDES OF THE DISC numerous, with only pointals; border with 4 clefts, upright; *seeds* fertile, with a feather. FLORETS BETWEEN THE OUTER SCALES OF THE EMPALEMENT. *Seeds* oblong. LEERS. ST.—*Stems* upright, branched at the top. *Branches* lateral, scattered, expanding, simple, or forked, rising above the stem. *Flowers* conical, sitting, yellowish brown. *Heads* solitary, surrounded with scattered leaves. *Blossom* of the central florets cylindrical.

drical, whitish; mouth with 4 teeth bent back, yellowish; *that of the florets of the centre* white; mouth with 4 teeth upright, with globular points. *Chives* 4. *Tips* with 2 bristles at the base similar to those in *Inula*. *Seeds of the florets of the centre and disc* oblong, compressed, greenish brown, beset with white pellucid glands, crowned with a feather; *those within the outer scales of the empalement* abortive. ST.—*Empal.* outer scales very woolly; the inner skinny, spear-shaped, ending in long taper points. *Blossom* yellowish. *Seed-buds* in all the florets rough, and crowned with a feather. WITH.—*Empalement* 5-cornered; scales glossy and sharp. *Blossom* brown.

Gnaphalium caule erecto, &c. LINN. fl. lapp. and fl. suec. ed. i. —*Filago pyramidata*. Fl. suec. ed. ii.—*Filago germanica*. LINN. sp. pl. and syst. veg.

Cudweed. Chafeweed.

Barren meadows and pastures, and road sides. A. July. Aug.

It is given to cattle that have the bloody flux; and hath been tried with success in similar complaints of the human body.

A Horse eat it. ST.

1030. CONY'ZA. Plowman's-wort.*

EMPAL. *common*, tiled; oblong; scurfy. Scales sharp; the outer a little expanded.

BLOSS. *compound*, tubular. Florets with Chives and Pointals numerous; tubular; in the centre. Florets with only Pointals without petals; roundish; in the circumference.

Individuals with Chives and Pointals, funnel-shaped. Border with 5 clefts; open.

Individuals with only Pointals, funnel-shaped. Border cloven into 3 segments.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud where there are chives and pointals oblong. Shaft as long as the chives; thread-shaped. Summit cloven.

Seed-bud where there are only pointals oblong. Shaft thread-shaped; as long, but more slender than the other. Summits 2; very slender.

S. VESS. none; the cup closing.

SEEDS in all the florets solitary; oblong. Feather simple.

RECEPT. naked; flat.

ESS. CHAR. Receptacle naked. Feather simple. Empalement tiled; roundish. Blossoms of the circumference with 3 clefts.

Spikenard CONY'ZA *squarro'sa*. Leaves spear-shaped, pointed. Stem herbaceous. Flowers in a broad-topped spike. Empal. scurfy.—

Blackw. 102.—*J. B.* ii. 1051. 2, in seed.—*Matth.* 870, cop. in *Clus.* ii. 21. 2, which repr. in *Dod.* 51. 2, *Lob. obs.* 308. 3, *ic.* i. 574. 1, *Ger. em.* 792, and cop. in *Park.* 114, and *Pet.* 18. 1, and abridged in *H. ex.* vii. 19. 23, in seed.—*Fl. dan.* 622.

Stems a foot high, upright, paniced above, purplish, with a white woolliness. Branches straight. Leaves egg-oblong, terminating in leaf-stalks, wrinkled, serrated, expanding, bowed back. Flowers terminating, straight. *LINN. hort. upf.*—Stem 2 to 3 feet high and more, firm, somewhat angular, scored, downy. Leaves bluntly

* The name *Spikenard* should be reserved for the generic name, when the true *Spikenard* shall be discovered. ST.

bluntly oval-spear-shaped, irregularly ferrated, woolly on both sides, decreasing in size upwards, those at the base of the flowering branches spear-shaped, or strap-spear-shaped, scarce perceptibly ferrated. *Flowers* numerous. *Fruit-stalks* short, woolly. *Floral-leaves* spear-shaped, small, 1 on each fruit-stalk. *Lmpal.* scales strap-spear-shaped, numerous, the lower green, the upper yellowish, the points green and expanding. *Seeds* small, blackish, furrowed; *feather* fitting, as long as the empal. Mr. Woodw.—*Stem* nearly cylindrical, reddish, rough with short woolly hairs. *Leaves* woolly underneath, and hairy above. *Empal.* scales purplish at the edge, with very short woolly hairs on the outside. *Blofs.* yellow: *florets without pointals* in the circumference with petals; *individuals with only pointals* slightly cloven into 3, have at first sight the appearance of a funnel-shaped floret, but are really more of the nature of a strap-shaped floret. WITH.—*Blossom* dusky purple, or yellowish.

Great Flea-bane. Plowman's Spikenard.

Mountainous meadows and pastures, and road sides in a calcareous soil. [Woods in Norfolk in a clayey soil, very common. Dr. SMITH.] B. July. Aug.

1031. ERIG'ERON. Flea-bane.

EMPAL. *common*, oblong; cylindrical; tiled. Scales awl-shaped; upright; gradually longer; nearly equal.

BLOSS. *compound*, radiate. Florets that have both Chives and Pointals tubular; in the centre. Florets that have only Pointals narrow; in the circumference.

Individuals with Chives and Pointals funnel-shaped. Border with 5 clefts.

Individuals with only Pointals narrow; between strap and awl-shaped; upright; generally very entire.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. *Seed-bud* where there are chives and pointals very small; crowned with a feather longer than its blofs. Shaft thread-shaped; as long as the feather. Summits 2; oblong; rolled back.

Seed-bud where there are only pointals very small; crowned with a feather; nearly as long as its blossom. Shaft hair-like; as long as the feather. Summits 2; very slender.

S. VESS. none. Cup closing.

SEEDS in all the florets oblong; small. Feather long.

RECEPT. naked; flat.

ESS. CHAR. Receptacle naked. Feather hairy. Blofs. rays strap-shaped; very narrow.

Obs. There are sometimes florets in the central part that have only chives and no pointals.

Canada ERIG'ERON *canadense*. Stem and flowers panicled, rough with hair. Leaves spear-shaped, fringed.—

Becc. rar. 46. at p. 86, cop. in *H. ex.* vii. 20. 29, and *Pet.* 16. 12.—*Zanon.* 23. 1.

Stem firm, frequently crooked, much branched towards the top. Leaves, the lower oval, tapering into a leaf-stalk; those above spear-shaped, with distant serratures, slightly hairy above, more so underneath; those at the base of, and on the branches, strap-spear-shaped, very entire, sitting. Flowers numerous. Fruit-stalks slender, branched and simple. Empal. outer scales short, the inner longer, strap-shaped, with a green line along the back, whitish and membranaceous at the edge. Florets very small. Seeds minute. Feather sitting, simple, as long as the florets. Mr. WOODWARD.—Florets in

in the centre yellow; those in the circumference white, with a tinge of red.

Cultivated ground and on rubbish. About London, common.
A. Aug.

ERIG'ERON *a'cre*. Fruit-stalks alternate, with 1 blue flower. LINN.—to 3 flowers. ST.*

Curt. i. 5.—J. B. ii. 1043. 2.—Dod. 641. 4, repr. in Ger. em.

484. 10, and cop. in Park. 126. 6, and Pet. 16. 4.—Col. ecphr.

ii. 26. 2.—H. ox. vii. 20. 25, ill done.

Stem sometimes much branched. CURT. ST.—Stems 6 to 18 inches high, somewhat angular, hairy, often purple. Leaves, the lower oval, tapering down into a leaf-stalk; the upper spear-shaped, the uppermost strap-shaped, hairy on both sides, but mostly at the edge, very entire, often waved at the edge. *Empal.* scales unequal, awl-shaped, hairy. Florets of the circumference purple, a little longer than those of the centre; florets of the centre yellow. Feather fitting, simple, yellow, as long as the florets. Mr. WOODW.—Stem undivided, near 2 feet high, hairy. Leaves spear-shaped, alternate, fitting, hairy. Fruit-stalks about one inch and a half long. Florets of the circumference few, of a fine purple. WITH.

Very dry meadows and pastures in a calcareous soil. [Narford, Norfolk. Mr. WOODWARD.]

B. July.—Sept.

The Germans take a decoction of it to attenuate viscid phlegm.

Cows and Goats refuse it.

* Pedunculis 1-3-floris.

1032. TUSSILA'GO. Colt's-foot.

EMPAL common, cylindrical. Scales spear-shaped; narrow; equal; 15 or 20.

BLOSS. compound, various. Florets with Chives and Pointals in some species all tubular, in others only tubular in the centre.

Florets with only Pointals in some species narrow; in others entirely wanting.

Individuals with Chives and Pointals funnel-shaped. Border with 4 or 5 clefts; sharp; reflected; longer than the empalement.

Individuals with only Pointals, either none at all, or very narrow; entire; longer than the empalement.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud where there are chives and pointals short. Shaft thread-shaped; longer than the chives. Summit thickish.

Seed-bud where there are only pointals short. Shaft thread-shaped; as long as the other. Summit thickish; cloven.

S. VESS. none. Cup but little changed.

SEEDS in all the florets solitary; oblong; compressed.

Feather hairy; standing on a pillar.

RECEPT. naked.

ESS. CHAR. Receptacle naked. Feather simple. Empal. scales equal; as long as the disc; somewhat membranaceous.

OBS. In *T. hybrida* and *Petasites* there are no narrow florets in the circumference, but there are florets with only pointals, without blossoms. The *T. Farfara* has always narrow florets in the circumference, furnished only with pointals.

common

TUSSILA'GO *Farfara*. Stalk tiled, with 1 flower. Leaves somewhat heart-shaped, angular, finely toothed.

Curt. ii. 13.—Walc.—Ludw. 50.—Blackw. 204.—Fl. dan. 595.—H. ox. vii. 12. row 1. 1. f. 1.—Dod. 596. 1 and 2, repr. in Lob. obs. 320. 1 and 2; ic. i. 539. 1 and 2, Ger. em. 811, and cop. in Ger. 666, Park. 1220, and Pet. 17. 8 and 7.—Fuchf. 140, cop. in J. B. iii. b. 563. 3, and Trag. 418.—Malth. 844, stalks ill done.—Lonic. i. 226. 2.

Flowers

*Flowers with rays. Florets of the circumference very entire. Feather sitting. LEERS. ST.—Root creeping. Leaves appearing as the flowers are going off, with several blunt lobes, sharply toothed, green above with reddish veins, white and cottony underneath, the cotton easily rubbing off. Leaf-stalks long, reddish brown. Stalks numerous, solitary or in clusters, 3 to 5 inches high, lengthening after flowering, cottony, clothed with spear-shaped scales embracing the stalk, of a green mixed with brown. Flowers while in blossom upright, after flowering hanging down, but when the feather of the seeds expand becoming upright again. Empal. scales strap-shaped, reddish brown. Blossom yellow. Florets of the circumference very narrow, in 2 or 3 rows, as long as the empalement, expanding. Florets of the centre tubular, swelling upwards; clefts 5, spear-shaped, bent back. Summit before the tips have discharged their dust covered by them, club-shaped and simple, but afterwards lengthened beyond them. Feather sitting, longer than the empalement. Mr. WOODW.—Stalks with a thin whitish cotton, and sprinkled with numerous blackish brown, upright, club-shaped hairs. Summit of the florets with chives and pointals knobbed, oblong, fleshy, somewhat lopped, slightly cloven at the end; of the florets with only pointals cloven, upright, not thicker than the shaft. Seeds of the florets with chives and pointals barren, empty, shorter; those of the florets with only pointals fertile. I give the above only as the result of my own examinations, not asserting it to be uniformly so. But the analogy between the structure of the summits, and those of the order *Polygamia necessaria*, induce me to believe the barrenness of the florets with chives and pointals to be the consequence of the structure of the summit. ST.—Stalks and empalement beset with very fine short hairs, terminating in globular heads. Scales on the stalk tinged with brownish pink. Receptacle dotted, with a very small white substance at the bottom of each hollow dot. WITH.*

Colt's-foot.—Pastures and moistish places, in moist, stiff, clayey soil, and on limestone rubbish. P. March. April.

The downy substance on the under surface of the leaves, wrapped in a rag, dipped in a solution of Saltpetre, and dried in the sun, makes the best tinder.—The leaves are the basis of the British Herb Tobacco.—They are somewhat austere, bitterish, and mucilaginous to the taste.—They were formerly much used in coughs and consumptive complaints; and perhaps not without reason, for Dr. CULLEN has found them to do considerable service in scrophulous cases; he gives a decoction of the dried leaves, and finds it succeed where sea-water has failed. *Cullen's Mat. Med.* p. 458.—And FULLER relates a case of a girl, with twelve scrophulous

fores, who was cured by drinking daily as much as she could, for above four months, of a decoction of the leaves made so strong as to be sweetish and glutinous. *Med. Gymn. p. 91.*

Goats and Sheep eat it. Cows are fond of it. Horses and Swine refuse it. LINN.—A Horse eat it. ST.

long-stalked TUSSILA'GO *hybrida*. Panicle oblong. Flowers with only pointals numerous, without blossoms.—

Dill. elth. 230. 297.

Florets tubular, with chives and pointals, and with only pointals. LINN.—*Feather* fitting. LEERS.—*Leaves* exactly like those of *T. Petasites*. *Stalk* 1 to 2 feet high, with numerous scales embracing the stalk, like those of *T. Petasites*. *Fruit-stalks* branched, woolly, with several flowers. *Flowers* smaller than those of *T. Petasites*. *Empalement* bellying, slightly cottony; scales nearly equal, pale green, purplish at the points and edges. *Florets with only pointals* numerous, white, slightly and irregularly cloven into 5 or 4 segments closely embracing the shaft. *Florets with chives and pointals* usually 1, sometimes 2 in the centre, but frequently wanting; purplish without, white within; the tube narrow, swelling upwards, and divided into 5 equal, bluntly spear-shaped, expanding segments. *Tips* purple, shorter than the blossom. *Shaft* longer than the blossom. *Summit* slightly cloven, where there are chives and pointals club-shaped, where only pointals slender. Described from a growing plant, but not wild. MR. WOODWARD.—*Panicle* 6 inches long, tapering at the end. *Fruit-stalks* in some plants with only 1 flower, scattered, horizontal, or expanding, thread-shaped, flexible, with scales, 3 times as long as the flowers. *Florets with chives and pointals* 1, in the centre of the disc, funnel-shaped, longer than the feather. *Seeds* in what I have examined, but they have been only dried specimens, generally abortive, never having found more than 1 fertile seed. ST.—(*T. hybrida*. RETZ. *obs. i. 99*, must from the description of its leaves be a different plant. MR. WOODWARD.)

Moist meadows. Near Loughborough, and other places in Leicestershire. [Near Banbury, Oxfordshire. DILL. *elth. p. 310.* MR. WOODWARD.] P. April.

Butterbur TUSSILA'GO *Petasites*. Panicle egg-shaped. Florets with only pointals few, LINN.—*entirely wanting in our plants*. LEERS. CURT. MR. WOODWARD. ST.

Curt. ii. 23.—*Blackw. 222.*—*Fl. dan. 842.*—*Clus. ii. 116. 1 and 2, repr. in Dod. 597, Lob. obs. 321. 2 and 3; ic. i. 591, Ger. em. 814, and cop. in Pet. 15. 12 and 11, and imitated in Ger. 668; the*

668; the flowers cop. in *H. ox.* vii. 12. 1. f. 3; and the leaves in *Park.* 419. f. 3.—*Fuchs.* 645, cop. in *J. B.* iii. 566. 2, *Trag.* 415, and *Lonic.* i. 226. 1.—*Matth.* 845.

Leaves the largest of any of our native plants. *Flowers* appear before the leaves, as they do also in *T. Farfara* and most other spring plants. LINN.—*Florets with only pointals* amongst those with chives and pointals, 2 or 3, scarcely to be said to have petals, strap-shaped, white. LINN. THE SON.—*Florets generally all with chives and pointals*, but sometimes a few, as 5 or 6, with only pointals, with a cloven summit. *Seeds* of the florets with only pointals perfect. HALL.—*Feather* sitting. LEERS.—*Seeds* altogether barren. CURT. ST. *Notes* May 21, 1777.—*Shaft* thread-shaped. *Summit* knobbed, spear-oblong, the point cloven. Compare this with the observations on *T. Farfara*. The thick-headed club-like summit I believe may be depended upon as a certain mark of barrenness in the florets of the compound flowers of the Syngenesia class, and evinces the propriety of removing this genus to the order *Polygamia neceffaria*. How they are propagated, unless by lateral shoots, I do not know, but this will not account for its general diffusion over the island, unless we suppose that, in this country, as well as in Switzerland and Sweden, they sometimes produce a few florets with only pointals interspersed among the rest. ST.—*Stalk* 8 to 12 inches high, with numerous spear-shaped scales embracing the stalk. *Florets* all with chives and pointals and tubular; at the base narrow and greenish white; upwards swelling, and reddish without, and white within, deeply divided into 5. spear-shaped expanding segments. *Tips* as long as the blossom, purplish. *Dust* yellow. *Pointal* white. *Summit* club-shaped, downy, shorter than the tips before they have discharged their dust, longer afterwards. MR. WOODWARD.

Butterbur. Pestilent-wort.

Moist meadows and pastures, and banks of rivers. [In a meadow on the west side of Wellington, Shropshire; and in Mothersea Brook near Stonc, Staffordshire. WITH.] P. Mar. Apr.

The roots abound with a resinous matter. They have a strong smell and a bitterish acrid taste.

Horses, Cows, Goats, and Sheep eat it.

Its large leaves afford shelter from showers to poultry and other small animals, LINN.

1033. SENE'CIO. Groundfel.

EMPAL. *common*, double; conical; lopped. Scales awl-shaped; numerous; contiguous; equal; dead at the ends; parallel; contracted above into a cylinder; the base tiled by a few scales.

BLOSS. *compound*, taller than the cup. Florets with Chives and Pointals tubular; numerous; in the centre. Florets with only Pointals, if any; narrow; in the circumference.

Individuals with Chives and Pointals funnel-shaped. Border reflected; with 5 clefts.

Individuals with only Pointals, if any, oblong; with 3 imperfect teeth.

CHIVES. Threads 5; hair-like; very small. Tips forming a hollow cylinder.

POINT. Seed-bud in both sorts of florets egg-shaped. Shaft thread-shaped; as long as the chives. Summits 2; oblong; rolled back.

S. VESS. none. Cup closing so as to form a cone.

SEEDS in both sorts of florets solitary; egg-shaped. Feather hairy; long.

RECEPT. naked; flat.

ESS CHAR. Receptacle naked. Feather simple. Empalement cylindrical; with a lesser empalement at the base; scales as it were dead at the point.

OBS. In some species the florets are strap-shaped in the circumference; in others they are all tubular.

* Flowers without strap-shaped florets.

† *S. viscosus*, which see.

common SENE'CIO *vulgaris*. Flowers not radiate. Leaves winged-indentured, embracing the stem. Flowers scattered.

Curt. i. 8.—Fl. dan. 513.—Blackw. 132.—Walc.—Trag. 285, imitated in Dod. 641. 2.—Matth. 1132.—Lonic. i. 96. 2.—Lob. obs. 112. 2, repr. in ic. i. 225. 2, Ger. em. 278. 1, and cop. in Park. 671, H. ex. vii. 17. 1, and Pet. 17. 5.—Ger. 217. 2.—Fuchj. 286.

Empal. scales at the base spear-shaped, purplish black for about one third of their length. Florets all with chives and pointals.

WITH. Blossoms yellow, terminating.

Erigerum.

Erigerum. GER. 217, descr. GER. em. 278. ST.

Groundsel. *Simson*.

Cultivated ground, rubbish, and court yards. A. Apr.—Sept.
A strong infusion of the plant vomits.—The bruised leaves are
a good application to boils.—The seeds are very acceptable to
Linnets and Gold-finches, when confined in cages.

Cows are not fond of it. Goats and Swine eat it. Horses and
Sheep refuse it. LINN.—A Horse eat it. ST.

* * Flowers with strap-shaped florets in the circumference rolled back.

SENE'CIO *visco'sus*. Blossoms in the circumference clammy
rolled back. Leaves with winged clefts, clammy. Scales
of the empalement loose, as long as the cup.*—

Dill. elth. 258. 336.—J. B. ii. 1042.—Barr. 401?—(Park. 672.

5, not the plant, as is evident from the very long fruit-stalks.—

Ger. 217. 2, has no loose scales at the base; Dod. 641. 1, repr.
in Lob. ic. i. 226. 2, and Ger. em. 278. 2, is *S. sylvaticus*.)

In appearance and size resembling the *S. vulgaris*, but clammy
all over from hairs which secrete a viscid liquor. Leaves in moun-
tainous situations with a leprous scurf underneath. Fruit-stalks
lateral, with 2 and 3 flowers. Empal. the scales at the base as long
as the tube, as it were dead at the ends. LINN.—Rays sometimes
wanting. HALL.—Stem taller and stronger; leaves more divided;
flowers larger; fruit-stalks longer, the upper forming a kind of
broad-topped spike; seeds longer, and more deeply furrowed; and
the feather longer than in *S. vulgaris*. MR. WOODWARD.—Blossoms
yellow.

Sandy ground. Fen banks in the Isle of Ely. Waste ground
near towns and villages, as at Leven on the coast of Fife, near
the salt works, and at Dyfart near the pier, and at Charles Town,
the lime-works of Lord Elgin. LIGHTFOOT.—King's Park, Edin-
burgh, MR. YALDEN—[under the Salisbury Craggs. ST.] A. Aug.
[and also in Dec. ST.]

SENE'CIO *sylvaticus*. Blossoms in the circumference bushy
rolled back. Leaves with winged clefts, finely toothed.
Stem branching into a broad-topped spike, upright.—

* Blossoms of the circumference rolled back. Leaves with winged clefts, finely toothed,
greatly clammy. Stem upright, branching like a broad-topped spike. HUDS. including
S. sylvaticus as a variety, but no reason for this opinion being offered, it
should seem to be founded on Linnæus's conjecture in the *Fl. suec.* ST.

Rupp. jen. Hall. 3. at p. 177.—Dill. elth. 258. 337.—Dod. 641. 1, repr. in Lob. ic. i. 226. 2, and Ger. em. 278. 2, and cop. in H. ox. vii. 17. 2, and Pet. 17. 6.—Fl. dan. 869, ill done, excepting the flowers.—Ger. 217. 1.—(Barr. 401, is more like *S. viscosus*.)*

Possibly a var. of *S. viscosus*, being found only in burnt up woods, which was confirmed by seeds of it sown in the garden, unless the gardener committed a mistake, which I am much inclined to suspect, and it is certainly worthy of notice that it is found in the province of Smoland, and other places where the *S. viscosus* has not been observed. LINN.—*Stem* taller, and more firm, though slenderer than that of *S. viscosus*. *Leaves* narrower, and more finely divided, frequently clammy in a hot sunny situation, but not so much so as those of *S. viscosus*. *Fruit-stalks* much more branched. *Flowers* more numerous, much smaller. *Seeds* shorter and broader. *Feather* shorter, MR. WOODWARD—strong-scented. *Stem* 2 to 3 feet high, with a fine woolliness of short, tapering, zigzag hairs, brittle, branching from the bottom. *Branches*, the upper rising nearly to the same height. *Leaves* somewhat woolly, with scattered short hairs, tapering, but not tipped with glands. *Fruit-stalks* somewhat cottony. *Empalement* conical, somewhat woolly; scales at the base awl-shaped, 2 to 3, dead at the ends, thrice as small as those of the empalement itself. *Bloss.* full yellow. *Florets of the circumference* scarcely longer than those of the centre. ST.—*Leaves*, edges rolled back. *Empal.* scales at the base few, short, slender, scarcely sensibly dead at the ends. *Florets of the circumference* rolled back, close up to the empalement. WITH.

Senecio viscosus β HUDS.

Banks, and mounds of earth in dry upland soil, dry heaths, and sandy ditch banks.

A. July.

Horses eat it. WITH.

*** *Flowers with strap-shaped florets in the circumference, expanding. Leaves with winged clefts.*

lowry SENE'CIO *crucifolius*. Flowers with rays. Leaves with winged clefts, toothed, a little hairy. Stem upright. —When cultivated it loses its woolliness.—

* The down on the leaves not expressed. HALL.

Curt. v. 50,* but hairs on the stem instead of cotton.—Walc.—Pet.
17. 3, the stem with entire leaves I have never seen.—Barr. 153,
more resembles *S. Jacobæa*.

Stem cottony. Leaves more rigid, hoary, somewhat hairy; segments narrower, sharper at the points. Empal. scales reddish, by no means black; scales at the base hairy, pressed to. POLLICH.—Stems numerous, 3 to 4 feet high, firm, cottony. Leaves hoary, but sometimes dark green above, and not hoary; segments strap-shaped, parallel, sharply toothed, terminating in a point; the mid-rib equal in breadth to the segments. Flowering-branches forming a kind of broad-topped spike. Fruit-stalks with several awl-shaped flower-scales. Florets of the circumference spear-shaped, pale yellow. Mr. WOODWARD.—Stem simple, dividing at the top into flowering-branches, ST. WITH.—beset with white scattered cotton. Leaves somewhat hairy underneath; hairs short, and thinly sprinkled on both sides with white scattered cotton. Empal. scales about 13, as it were dead and brown at the points; those at the base as small again, upright, or expanding. Florets of the circumference equal in number to the scales of the empalement. Threads thickening towards the point into flatted spear-egg-shaped grains. ST.—Stem angular, furrowed. Leaves sitting, hairy, particularly underneath; the lower rough to the touch; the upper less hairy; segments strap-shaped, and toothed at the ends. Empal. scales not dead at the ends, but yellow and woolly, the outer strap-shaped, fleshy, the inner the same, but edged with a broad membranaceous border. WITH.

Senecio tenuifolius. JACQ. in syst. veg. ed. xiv. p. 753. ST.

Woods and hedges. [Bath Hills, near Bungay, Suffolk. Mr. WOODWARD.] P. July. Aug.

A Horse eat it. ST.

SENE'CIO *Jacobæa*. Flowers with rays. Leaves Ragwort
spear-shaped, almost winged. Segments finely jagged.
Stem upright.—

* This does not correspond with its most general appearance in the North. It does occur with us in this state, but it is but seldom, and seems to be a variety occasioned by a damper and more shady situation. Jacq. fl. i. 278, called *S. tenuifolius*, is a very exact representation of it, as it mostly appears with us. Mr. WOOD.—The very excellent professor has inserted it as a new species in the *Syst. veg. ed. xiv*, but specimens from his son convince me, that it is the same plant with what we at least call *S. erucifolius*. The leaves I must add, of these specimens, are *pinnatifida*, not *pinnata*, as in the *Syst. veg.* ST.

Math. 1133, abridged in *Clus.* ii. 22, 1, which repr. in *Dod.* 642, *Lob. obs.* 113. 2; *ic.* i. 227. 1, *Ger. em.* 280. 1, and cop. in *Park.* 668. 1, and abridged again in *Pet.* 17. 1.—*Fuchf.* 742, cop. in *J. B.* ii. 1057. 1, and *Trag.* 287, and abridged in *Lonic.* i. 96. 3.—*H. ox.* vii. 18. 1.—*Ger.* 218. 1.

Stem 3 feet high, branched. *Flowers* in a broad-topped spike. *Fruit-stalks* branched, cylindrical, somewhat woolly, with a few scales. *Florets* in the centre 60, in the circumference 13, *RELHAN*.—*Stem* cylindrical, scored, generally smooth, often tinged with purple. *Leaves* doubly wing-cleft; wings variously lobed, and toothed, and sometimes again wing-cleft. *Blossoms* deep yellow. *Mr. WOODWARD*.—*Stem* often thinly sprinkled with a fine cotton. *Leaves* wing-cleft, almost winged; segments wing-cleft; lesser segments broader towards the end; with thin spread cotton here and there. *Empal.* scales 13, sometimes 15. *Florets* of the circumference 13. *Threads* towards the end thickening into flat egg-shaped glands, disappearing as soon or soon after the dust is shed, rendering it probable that they are intended for the nourishment of the dust. *ST*.—*Fruit-stalks* branched.

Rag-wort. *Seggrum.* *St. James's Wort.*

Meadows, pastures, and road sides.

P. July.

If this plant is gathered before the flowers open, and used fresh, it dyes wool of a full green, but the colour is apt to fade. If wool-len cloth is boiled in alum-water, and then in a decoction of the flowers, it takes a beautiful deep yellow.

Horses and Sheep refuse it. Cows are not fond of it. *LINN*.—Horses and Cows eat it when young.

β Flowers without rays. Is so exceedingly like α that it cannot be considered as a different species. It is very common on the sand hills of Holland. *LINN*.

In great plenty in gravel on the sea shore, about 3 or 4 miles from Drogheda, scarcely one in a thousand being radiated. *SHERARD* in *R. syn.*—Perhaps this variety is only the effect of the sea air, as it is well known how destructive that is to the more tender parts of vegetables.

water SENE'CIO *aqual'icus*. Flowers with rays. Leaves toothed, those at the root egg-shaped, those of the stem with winged clefts; the outer segment largest. *HUNS*.

J. B. ii. 1057. 3, improved in *Pet.* 17. 2.—*Fl. dan.* 784, leaves more pointed than I have ever seen them.—*Clus.* ii. 23. 1, repr. in *Ger. em.* 280. 3, the stem-leaves cop. in *Park.* 668. 3, possibly, though the lowermost leaves are heart-shaped.

Stem

Stem cottony, purplish. *Root-leaves* on long leaf-stalks; *stem-leaves* sitting; the uppermost with winged clefts; wings toothed. *Broad-topped spike* of few flowers. RELHAN.—*Leaves* with winged clefts, with some small wings at the base, and a very large one egg-shaped, scolloped, terminating, smooth. *Fruit-stalks* irregularly branching, with numerous awl-shaped scales. Haller supposes *S. erucifolius*, *Jacobæa*, and *aquaticus*, to be varieties of one species. The first is clearly distinct, and I believe the latter to be so, but in order to put this matter out of doubt, the seeds of *S. aquaticus* should be sown in high and dry situations, and those of *S. Jacobæa* in boggy or marshy ground. Mr. WOODWARD. ST.—*Stem* quite smooth. *Leaves* quite smooth; *root-leaves* with the terminating leaflet oblong. *Empal.* scales 15 to 21, dead as it were and brown at the points. *Florets of the circumference* about 21. *Threads* thickening towards the end into oblong glands. ST.

Ditches and watery places, and moist meadows and pastures.

P. July. Aug.

*** Flowers with strap-shaped florets in the circumference, expanding.
Leaves undivided.

SENE'CIO *paludo'sus*. Flowers with rays. Leaves *Bird's-tongue* sword-shaped, sharply ferrated, a little woolly underneath. Stem quite straight.—

Fl. dan. 385.—*Ger.* 347, *cop. in Ger. em.* 483. 6, and *Pet.* 16.

8.—*Thal.* 3, *cop. in J. B. ii.* 1063. 3, and *Park.* 1232.—*H.*

ox. vii. 19. 22.

Leaves sometimes cottony on both sides. LINN.—*Stem* 2 to 5 feet high, simple. *Leaves* very long, strap or spear-shaped, losing their woolliness by age. *Rundle* flat-topped. *Flowers* 2 inches broad. *Empalement* conglutinated. HALL.—*Blossom* yellow.

Bird's-tongue.

Marshy ditches and their banks in the Isle of Ely, near Stretham Ferry, but not common.

P. Aug. -

SENE'CIO *saracenicus*. Flowers in rays, in broad- *broad-leaved* topped spikes. Leaves spear-shaped, ferrated, almost smooth.—

Ger. 350.—*Inchl.* 728, *cop. in J. B. ii.* 1063. 2, *Trag.* 487, and

Lonic. i. 241. 3.—*Dod.* 141. 1, *repr. in Lob. obs.* 159. 3; *ic.*

i. 299. 2, *Ger. em.* 429, and *cop. in Park.* 539, with an addition of pods.—(*Pet.* 16. 7, is a copy of the figure of *S. Doria*

in Dod. 141. 2, *repr. in Lob. obs.* 158. 2, *ic. i.* 297. 2, *Ger.*

em.

em. 431, and cop. in Park. 541. 1, and which is also figured in J. B. ii. 1064. 1.)*

Distinguishable by its appearance, broad leaves, size, and root which creeps very much. LINN.—Stems numerous, 3 to 4 feet high, firm, solid, angular, fully clothed with leaves. Leaves numerous, gradually diminishing upwards, the lower on leaf-stalks, the upper sitting, sharply and irregularly serrated, but not minute, as those of *S. Doria* are described, the larger serratures again serrated, smooth on both sides. Broad-topped spike immersed as it were in the upper-leaves, each branch dividing at the end into several short fruit-stalks, bearing 1 or more flowers. Floral-leaves small, spear-shaped. Empal. scales strap-shaped, smooth, green, membranaceous at the edge; those at the base awl-shaped, few, short, fringed with short hairs. Florets of the circumference few, and sometimes wanting. Seeds black. Feather as long as the empalement. Specimens growing in my own garden. I have never seen a native one. Mr. WOODWARD.—Blossom yellow.

Moist meadows and pastures, and ditch banks. Between Wells and Glastonbury, and near Shipton-mallet, and elsewhere in Somersetshire. Near Halifax, in the fields about Salkeld; *R. syn.*—and about Clapham and Ingleton, Yorkshire. HUDS.—[Marshy meadows near Perry Hill, between Hales-owen and Birmingham. Mr. BRUNTON, jun.] P. July. Aug.

The *Phalæna fuliginosa*, *Jacobæa*, and *pronuba*, live upon the several species.

* My specimen accords with the last cited figures, and also with the character and description of *S. Doria*, which I am induced to believe to be our plant. Petiver's authority being that of a practical botanist, has also considerable weight. But as my specimen was gathered in a botanic garden. I only offer the above as a subject for examination to such botanists as may examine it in its native place of growth. ST.

1034 A S' T E R. Star-wort.

EMPAL. common, tiled; the inner scales standing out at the points; the lower open.

BLOSS. compound, radiate. *Florets with Chives and Pointals*, numerous; in the centre. *Florets with only Pointals*, 10, or more; narrow; in the circumference.

Individuals with Chives and Pointals, funnel-shaped. Border with 5 clefts; open.

Individuals with only Pointals, narrow; spear-shaped; with 3 teeth.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seed-bud*, where both chives and pointals, oblong. *Shaft* thread-shaped; as long as the chives. *Summit* cloven-expanding.

Seed-bud, where only pointals, oblong. *Shafts* the same as the other. *Summits* 2; oblong; rolled back.

S. VESS. none. *Cup* but little changed.

SEEDS in all the florets, solitary; oblong or egg-shaped.

Feather hairy.

RECEPT. naked; flattish.

ESS. CHAR. *Receptacle* naked. *Feather* simple. *Bloss.* rays more than 10. *Empalement* tiled; the lower scales open.

* *Herbaceous. Leaves* entire. *Fruit-stalks* naked.

A S' T E R *Tripolium*. *Leaves* spear-shaped, very entire, *sea* fleshy, smooth. *Branches* even. *Flowers* in broad-topped spikes.—

Fl. dan. 615.—*Gmel.* ii. 80. 2.—*J. B.* ii. 1064. 2.—*Ger.* 333, *ill cop.* in *Dod.* 379, *Lob. obs.* 157. 4; *ic.* i. 296. 1, *Ger. em.* 413. 1, and *cop.* in *Park.* 674, and *Pet.* 17. 10.—*Lob. obs.* 158. 1, *repr.* in *ic.* i. 296. 2, *Ger. em.* 413. 2, and *cop.* in *Pet.* 17. 11.—*H. ox.* vii. 22. 36.

Florets in the centre yellow; in the circumference blue; *Bot.* *ARR.* ed. i.—sometimes, though rarely, white. *RELHAN.*—*Stem* 1 to 3 feet high. *Leaves* fleshy. *Flowering-branches* from the bosom of the upper-leaves. *Fruit-stalks* branched. *Empal.* scales in 2 or 3 unequal rows, short, egg-shaped, scored, green and brown, with reddish brown tips. *Florets of the circumference* spear or strap-shaped, pointed, frequently cloven at the point, bright blue. *Florets of the*
centre,

centre, deeply divided into spear-shaped segments. *Feather* shorter than the blossom. Mr. WOODWARD.—*Stems* several, sometimes solitary, 1 to 2 feet high, straight, cylindrical, gradually tapering, deeply scored, smooth, often reddish, branching above, below covered with a fungous cellular rind. *Branches*, the upper rising to the same height, exceeding the stem, the lower gradually shorter, slightly compressed, deeply scored. *Leaves* strap-spear-shaped, pointed, alternate, half embracing the stem, either bent down or expanding, edge somewhat serpentine, and beset with eminent points, the rudiments, as it were, of serratures, thickish, beset above with very small whitish points, smooth, even, almost veinless. *Flowers* with somewhat of a sweetish scent. *Florets of the circumference* 21 to 23, of a bluish lilac. *Florets of the centre* fewer, about 18. *Seeds* oblong, compressed, broader above; those with chives and pointals, fringed with scattered hairs; those with only pointals, hairy, only half as large. ST.

Salt marshes on the sea coast, RAY. LIGHTF.—in a muddy soil. HUDS.—Sea shores of Europe, and the salt lakes of Sibiria and Germany, LINN.—[and in salt marshes in the inland parts of the kingdom, as in a salt marsh near Shirley Wich, Staffordshire; in a meadow between the Trent and the Canal. ST.] P. Aug. Sept.

Goats and Horses eat it. Cows and Swine refuse it. Sheep are not fond of it. LINN.

May it not, when growing in an inland situation, be depended on as a proof of the existence of salt springs? ST.

β LIGHTF. ST. All the florets tubular. ST.

Pet. 17. 12.

About Bristol, frequent. RAY.

1035. SOLIDA'GO. Golden-rod.

EMPAL. common, oblong; tiled; scales oblong; narrow; tapering; straight; approaching.

BLOSS. compound, radiate. Florets with Chives and Pointals, tubular; numerous; in the centre. Florets with only Pointals, narrow; 5 to 10; in the circumference.

Individuals with Chives and Pointals, funnel-shaped: Border with 5 clefts; open.

Individuals with only Pointals, narrow; spear-shaped; with 3 teeth.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud, where both chives and pointals, oblong. Shaft as long as the chives; thread-shaped. Summit cloven; expanding.

Seed-bud, where only pointals, oblong. Shaft thread-shaped; as long as the other. Summits 2; rolled back.

S. VESS. none. Cup but little changed.

SEEDS in all the florets; solitary; inversely egg-shaped-oblong. Feather hair-like.

RECEPT. flat; naked.

ESS. CHAR. Receptacle naked. Feather simple. Florets of the circumference about 5. Empal. scales tiled; closed.

SOLIDA'GO *Virgaurea*. Stem somewhat zigzag. common Bunches paniced, upright, crowded.—

α HALL.—Ludw. 150.—Fl. dan. 563.—J. B. ii. 1062. 3.—Sheldr. broad-leaved 63.—Blackw. 169.—Ger. 348. 2, cop. in Pet. 16. 10.—Dod. 142. 2, repr. in Lob. obs. 159. 2, ic. i. 299. 1, Ger. em. 430. 2, and curtailed in H. ox. vii. 23. row 1. 4.

β HALL. Serratures of the leaves less distinct. GMEL. narrow leaved Matth. 1006, spikes excellent.—Dod. 142. 1, repr. in Lob. obs. 159. 1, ic. i. 298. 2, Ger. em. 430. 1, cop. in Ger. 348. 1, Pet. 16. 9, and ill cop. in H. ox. vii. 23. 20.—Garf. 627.

Root-leaves serrated. Stem-leaves sometimes serrated, but mostly entire. LINN.—Stem frequently not more than a foot high on heaths, but in hedges and copses 3 or 4: unbranched. Leaves, lower oval-spear-shaped, tapering into a leaf-stalk, distantly serrated, but towards the point almost entire, rough, slightly hairy, dark green above, sea-green underneath, with a net-work of numerous veins; the upper alternate, nearly fitting, spear-shaped,

entire, or nearly so. *Flowering-branches* from the bosom of the leaves, the lower shorter, the upper longer than the leaves, with 6 to 8 flowers on branched fruit-stalks. *Flower-scales* 1 or 2 on each fruit-stalk. *Empal.* scales unequal, spear-shaped, with a green line along the back, and whitish, shining, membranaceous edges. *Seeds* brown, convex on one side, flat on the other, hairy the whole length, nearly as long as the empalement. Mr. WOODW. — *Stem, leaves, empalement,* and tubular parts of the *florets* thick set with very short, opaque, white, bristly hairs. *Leaves* distantly ferrated. *Empal.* scales a little skinny at the edge, and within of a silvery white, the outer much shorter. *Florets of the centre,* segments bent back. *Florets of the circumference* 6 to 8, bent back, with 4 or 5 faint longitudinal scores, and 3, and sometimes 4 teeth at the end. WITH.—*Leaves* egg-spear-shaped. *Bloss.* yellow.

Wound-wort.—Woods, hedges, and heaths. P. Aug. Horses, Cows, Sheep, Goats, and Swine eat it.

β Huds. *Leaves* narrower, on long leaf-stalks. *Flowers* larger. from the bosom of the leaves, crowded into a kind of spike. RAY. In Ireland.

Welsh SOLIDA'GO *cambrica*. *Leaves* spear-shaped, somewhat ferrated, somewhat hoary. *Panicles* like broad-topped spikes; terminating, Huds.—rather, lower-leaves wedge-oblong. *Panicle* conglobated. ST.*

Dill. eth. 306. 393.—*Pet.* 16. 11. †

Flowers conglobate. When cultivated rises to a foot in height. RAY. ST.—Whether a distinct species, or a variety, must be left for further examination. LLOYD.—It seems to differ from *S. virgaurea* only in the *flowers* being larger, in a closer spike, and the *florets of the circumference* broader. The *leaves* are more hairy, but this is frequently the case with dwarfish and stunted plants. Dillenius also doubts whether it be distinct, though the plant gathered by Mr. Lloyd preserved its appearance for several years, in the Eltham garden. My specimens afford no mark sufficient to form a specific difference. Mr. WOODWARD.

Pastures on the top of y Glyder Mountain, in Wales. LLOYD. —Mountains about Llanberys, and on those of Yorkshire and Westmoreland. Huds.—Llyn y Cwyn, near Snowdon. Penns. Wales.—[On the rocky precipice on the summit of Ingleborough, to the North-west. Mr. WOODWARD.]

P. June. Huds. ed. i. Aug. ed. ii.

* *Folii inferioribus cuneato-oblongis, panicula conglobata*, rather than corymbosa. ST.

† *Leaves* more like those of *S. virgaurea*. ST.

Flowers earlier. LIGHTF. [July. Mr. WOODWARD.]

β Fruit-stalk with 1 flower.

On the summits of mountains.

Is not this the *S. minuta* of Linnaeus? HUDS.—Is not *Pluk.* 235. 8, the *S. cambrica*? DILL. in *R. syn.* 177. n. 4.—Their leaves exactly correspond, and a specimen cultivated in Dr. FOTHERGILL'S botanic garden for *S. minuta*, has got probably from a richer soil the conglobated panicle. Haller makes the *minuta* a variety of *S. Virgaurea*, but he refers to *Barr.* 733, which, as also *Herm. par.* 245, have, I confess, the habit of that species, but *Pluk.* he does not quote. SR.

1036. CINERA'RIA. Flea-wort.

EMPAL. common, simple; of many leaves. *Little Leaves* equal.

BLOSS. compound, radiate. *Florets with Chives and Pointals*, equal; numerous; in the centre. *Florets with only Pointals*, narrow; equal in number to the leaves of the empalement; in the circumference.

Individuals with Chives and Pointals, funnel-shaped; with 5 clefts; upright.

Individuals with only Pointals, narrow; spear-shaped; finely toothed at the end.

CHIVES. *Threads* 5; thread-shaped; short. *Tips* forming a hollow cylinder, with 5 clefts at the top.

POINT. *Seed-bud*, where both chives and pointals, oblong. *Shaft* thread-shaped; as long as the chives. *Summits* 2; rather upright.

Seed-bud, where only pointals, oblong. *Shaft* thread-shaped; short. *Summits* 2; oblong; rather blunt; rolled back.

S. VESS. none. *Cup* unchanged.

SEEDS in all the florets, solitary; narrow; with 4 angles.

Feather hairy; in large quantity.

RECEPT. naked; rather flat.

ESS. CHAR. *Receptacle* naked. *Feather* simple. *Empalement* simple; of many leaves; equal.

CINERA'RIA *palustris*. Flowers in broad-topped *marsh* spikes. Leaves broad-spear-shaped, toothed-indent. Stem woolly.—

Fl. dan. 573.—*Gmel.* ii. 72.*—*Dod.* 52. 2, repr. in *Lob. ic.* i. 347, *Ger. em.* 483. 5, and cop. in *H. ox.* vii. 19. 24, and *Pet.* 16. 6, and a portion of the stem and a leaf in *Park.* 126. 3.

Leaves thick, cottony, and almost clammy, covering the stem quite up to the flowers; the lower cut, and almost wing-cleft. LINN.—Stem 1 to 3 feet high, thick, hollow, with a thick clammy long wool. Leaves varying extremely in form and manner of growth, with the same wool as the stem, without order, sitting, or half embracing the stem, waved, sometimes barely toothed, those immediately beneath the broad-topped spike entire. Fruit-stalks branching. Floral-leaves awl-shaped, one on each fruit-stalk. *Empal.* scales nearly equal, spear-shaped, woolly, membranaceous at the edge. Blossom pale yellow. Florets of the circumference oval, veined, with 2 or 3 teeth at the end, or entire; 4 lines long, with a short narrow tube. Florets of the centre somewhat shorter. Tips somewhat longer than the blossom. Shaft, where chives and pointals, longer than the chives; where only pointals, as long as the tube. Seeds small. Feather as long as the tube of the blossom; rays few. Mr. WOODWARD.

Marshes in Lincolnshire. Fen-ditches about Marsh and Chatterers in the Isle of Ely; Caister near Yarmouth; about Pillinmoss, Lancashire; and Aberavon, Merionethshire. [About Yarmouth, Norfolk. Mr. WOODWARD.] P. June. July.

β Leaves not jagged. *R. syn.* 174. n. 3. note. Mr. WOODWARD.

Lob. ic. i. 347. 1, repr. in *Ger. em.* 484. 8, and cop. in *Park.* 126. 4, *H. ox.* vii. 19. row 2. 23, and *Pet.* 16. 5.

Cineraria alpina ♂ *Helenitis*. LINN? (ST.)

γ Less woolly than α. Stem slender, about 18 inches high. Leaves strap-spear-shaped, toothed, the lower about 4 inches long, the upper two and a half to one and a half, and not more than one fourth wide, not so numerous as in α. Flowers smaller. Fructification perfectly similar.

Near Ramsey, Huntingdonshire. Mr. WOODWARD.

mountain CINERARIA *integrifolia* β MURR.—Leaves spear-shaped, generally finely toothed, woolly. Flowers in 2 bundle. LINN.—Root-leaves gradually narrowing at the base. MURR.

* Flowers too small. Mr. WOODWARD.

Relh. at p. 320, *Cineraria alpina*.^{*}—Pet. 17. 4.—(Gmel. ii. 71. 1 and 2, as is evident from the description p. 157. l. 2, Barr. 266, and Chuf. ii. 22. 2, repr. in Ger. em. 280. 2, and cop. in Park. 668. 5, J. B. ii. 1056. 2, and H. ox. vii. 12. 28, seem rather to be *C. integrifolia* α .)

A proteous-like plant, to be attentively examined in its native soil. LINN.—Distinguishable from the other varieties, with which Linnæus has associated it, by its leaves being broader, more toothed, GER. prov. and the florets of the circumference being yellow. GER. prov. ST.—Root fibrous. Root-leaves on leaf-stalks, spatula-shaped, obscurely toothed, cottony underneath; stem-leaves sitting, spear-shaped, cottony. Stem 3 to 6 inches high, simple, cottony, angular. Flowers 1 to 4, yellow. Florets of the circumference 10 to 15; of the centre numerous, prominent. Empalement furrowed, the edges skinny. Seeds hairy; feather simple. RELHAN. MR. WOODW.—Stem solitary, upright. Root-leaves with small-pointed brown teeth, losing their cotton like the *Tussilago Farfara*; stem-leaves half embracing the stem, almost pressed to, very entire, alternate. Flowers in a broad-topped spike. Floral-leaves strap-shaped, cottony, 1 at the base of each fruit-stalk. Fruit-stalks unequal. RETZ. MR. WOODWARD.—Stem sometimes 8 or 9 inches high. Root-leaves always more or less toothed, though frequently obscurely so. Flowers seldom more than 4. MR. WOODWARD.

Cineraria alpina (*integrifolia* β) LINN.—*Cineraria integrifolia* (*pratensis* β) JACQ. and MURR. *sysl. veg. ed. xiv*, who has framed distinct characters of 2 varieties, and has yet omitted to give a specific character, which ought to comprehend them both.—*Cineraria alpina*, HUDS. and RELH. the latter not having probably observed, that in the *Suppl. et sysl. veg. ed. xiv*, the *Cineraria alpina* is referred to the genus *Senecio*, under the title of *S. alpinus*. ST.

Hilly pastures. Gogmagog Hills, Newmarket Heath, the Devil's-ditch, and near Basingstoke and Andover. P. May. June.

* Flowers and parts of fructification too large, and the root-leaves represented absolutely entire; their general form well expressed, as they also are in Pet. MR. WOODWARD.

1037. IN'ULA. Elecampane.

EMPAL. common, tiled; leaves flexible; open; the outer ones the largest; equal in length.

BLOSS. compound, radiate; broad. Florets with Chives and Pointals, equal; very numerous; in the centre. Florets with only Pointals, narrow; numerous; crowded; in the circumference.

Individuals with Chives and Pointals, funnel-shaped: Border with 5 clefts; somewhat upright.

Individuals with only Pointals, narrow; strap-shaped; very entire.

CHIVES. Threads 5; thread-shaped; short. Tips 5; narrow; united; forming a hollow cylinder; each tip ending at the base in 2 straight bristles, as long as the threads.

POINT. Seed-bud, where both chives and pointals, long. Shaft as long as the chives, thread-shaped. Summit cloven; nearly upright.

Seed-bud, where only pointals, long. Shaft thread-shaped; a little cloven. Summits upright.

S. VESS. none. Cup unchanged.

SEEDS in all the florets, solitary; narrow; with 4 angles. Feather simple; as long as the seed.

RECEPT. naked; flat.

ESS. CHAR. Receptacle naked. Feather simple. Tips ending at the base in 2 bristles.

common IN'ULA *Hele'nium*. Leaves embracing the stem; egg-shaped; wrinkled; cottony underneath. Scales of the cup egg-shaped.—

Blackw. 473.—*Ludw.* 59.—*Dod.* 344, repr. in *Lob. obs.* 309. 1, ic. i. 574. 2, *Ger. em.* 793, and cop. in *H. ox.* vii. 24. row 3. fig. the last, and *Pet.* 16. 1, and abridged in *Park.* 654.—*Garf.*—*Ger.* 649.—*Fl. dan.* 728.—*Matth.* 71.—*Fuchf.* 242, cop. in *J. B. ii. a.* 108, and imitated in *Trag.* 170.

Stem 5 or 6 feet high, branched towards the top, scored, cottony. Leaves, the lower on leaf-stalks, spear-shaped; the upper egg-spear-shaped, serrated or toothed, deep green, slightly hairy above, whitish green and thickly cottony underneath. Flowers very large, solitary, terminating the stem and branches. Empal. the outer egg-spear-shaped, like the leaves; the inner bluntly egg-shaped, cottony. Blossom yellow. Florets of the circumference one

to one inch and a half long, with 3 pointed teeth at the end. *Feather* shorter than the *florets*; rays when viewed with a glass finely toothed on one side. Mr. WOODWARD.

Moist meadows and pastures. In Essex, frequent; about St. Ives, Cornwall, and Bugden, Huntingdonshire; between Denbighshire and St. Asaph. [Side of Bredon Hill, ascending from Great Comberton, Worcester-sh. NASH.—Ripton and Warboy's, Huntingdonshire, the latter far removed from any house. Mettingham, Suffolk. Not uncommon in Norfolk. Mr. WOODW.]

P. July. Aug.

The root is esteemed a good pectoral. Dr. Hill says, he knows, from his own experience, that an infusion of the fresh root, sweetened with honey, is an excellent medicine in the Hooping Cough.—A decoction of the root cures Sheep that have the Scab.

Horses and Goats eat it. Cows, Sheep, and Swine refuse it.

IN'ULA *dyſenter'ica*. Leaves embracing the stem, *middle* oblong-heart-shaped. Stem woolly, forming a kind of panicle. Scales of the cup bristle-shaped.—

Curt. iii. 28.—Fl. dan. 410.—Walc.—Matth. 872, *cop. in Clus. ii.*

21. 1, which repr. in Dod. 52. 1, Lob. obs. 187. 1, ic. i. 345.

2, Ger. em. 482. 3, and *cop. in Pet. 16. 2.*—H. ex. vii. 19. 7.

—Fuchs. 436, *cop. in J. B. ii. 1050. 1.*

Empal. scales awl-shaped, soft, bowed back, coloured at the edge. LINN.—Stem upright, cylindrical, scored, cottony, branched towards the top. Leaves spear-shaped, obscurely toothed, arrow-shaped at the base, cottony on both sides. Flowers terminating the stem and branches, solitary. *Empal.* scales numerous, cottony. Blossom yellow. Florets of the circumference with 3 teeth at the end. Feather as long as the tube of the blossom. Mr. WOODW.—Stem 2 to 4 feet high, before it comes into flower clothed with leaves and cotton, but when in blossom the lower part loses its leaves and cotton, and is only somewhat hairy. Branches, the uppermost somewhat longer than the stem. Leaves, edge waved and bent back, cottony underneath, above wrinkled, smoothish. Fruit-stalks cylindrical, longish, cottony, from the bosom of the leaves, the lowermost rising somewhat above the rest. Tips, the bristles 3 or 4 times shorter than the threads. ST.—Leaves wrinkled on the upper surface, and somewhat waved at the edge. Florets of the circumference with 3 teeth at the end. Tips, bristles at the base very minute. Seeds rough with short bristles. Receptacle rough with short, stiff, projecting, spear-shaped points. WITH.

Middle Ilea-bane.—Moist meadows and pastures, watery places, sides of brooks and rivulets. P. Aug. [to the beginning of Nov. ST.]

It has a peculiar scent, compared by some to that of soap.—The Russian foldiers, in the Persian expedition under General Keit, were much troubled with the bloody flux, which was cured by the use of this plant.—Cows are not fond of it. Goats and Sheep refuse it. LINN.—A Horse eat it, but it is generally left untouched. ST.

Small flowered IN'ULA *Pulica'ria*. Leaves embracing the stem, waved. Stem prostrate. Flowers nearly globular; rays very short. LINN.—Leaves oblong. Stem upright. Flowers globular. HUDS. ST.

Curt. iii. 26.—Sheldr.—Fl. dan. C13.—Blackw. 103.—Ger. 390. 2.—Trag. 106, cop. in Lonic. i. 131. 3.—Dod. 52. 3, repr. in Lob. obs. 187. 2, ic. i. 345. 1, Ger. em. 482. 4, and cop. in H. ex. vii. 20. 30, and Fet. 16. 3.—(J. B. ii. 1050. 2, seems rather *I. britannica*.—Matth. 871, must be a different plant, as the stem is longer than the branches.)

Stem cylindrical, scored, smooth, crooked, often tinged with purple, much branched. Leaves, the lower sitting; upper embracing the stem, spear-shaped, waved at the edge, slightly hairy and cottony. Flowers numerous, solitary. Empalements numerous, awl-shaped, woolly; the lower spreading. Blossoms yellow. Florets of the circumference with 3 teeth at the end, often wanting. Feather shorter than the florets; rays few. Mr. Woodw.—Stem smoothish below. Branches open, longer than the stem, branched and somewhat cottony at the top. Fruit-stalks hairy, terminating the stem and branches, or from the bosom of the leaves. Empalement woolly; scales nearly upright. Tips not bristly at the base. ST.—Stem upright. Leaves a little woolly. Flowers broad, short, cylindrical. Florets of the circumference with 3 teeth. Tips, bristles very minute, and much shorter than the threads. Seed-bud with white shining hairs. Feather shorter than the seed. WITH.

Small Flea-bane.—Road sides, and where water has lain during the winter.

A. Aug. Sept. [and Oct. ST.]

Sheep eat it. Horses, Cows, and Goats refuse it.

Sampfire IN'ULA *crithmiso'lia*. Leaves strap-shaped, fleshy, 3-pointed, LINN.—or entire at the end. Mr. Woodw. ST.

J. B. ii. a. 106. 3, points at the end of the leaves not expressed.—Dod. 706. 1, repr. in Lob. obs. 215. 1; ic. i. 395. 2, Ger. em. 533. 3, and cop. in Park. 1287, H. ex. vii. 21. 16, and Pet. 17. 9.—Matth. 491, cop. in Ger. 427. 3.

Stems firm, smooth, scored, much branched. Leaves at the ends of the branches crowded. Flowers solitary, terminating the upper branches.

branches. *Fruit-stalks* thick. *Empal.* scales numerous, awl-shaped, fleshy, yellowish green. *Seeds* woolly. *Feather* shorter than the floret; rays few, when viewed with a glass finely toothed on one side. Mr. WOODWARD.—*Blossoms* yellow.

I. crithmoides, Sp. pl. and HUDS.

Golden Samphire.

Salt marshes on the sea coast, in a muddy soil.

P. Aug.

1039. DORO'NICUM. Leopards-bane.

EMPAL. common, with spear-awl-shaped leaves, about 20; equal; upright; in 2 rows; often as long as the rays of the blossom.

BLOSS. compound, radiate. *Florets with Chives and Pointals*, tubular; numerous; in the centre. *Florets with only Pointals*, narrow; equal in number to the leaves of the empalement; in the circumference.

Individuals with Chives and Pointals, funnel-shaped.

Border with 5 clefts; segments open.

Individuals with only Pointals, narrow; spear-shaped; with 3 teeth.

CHIVES. *Threads* 5; hair-like; very short. *Tips* united forming a hollow cylinder.

POINT. *Seed-bud*, where both chives and pointals, oblong. *Shaft* thread-shaped; as long as the chives. *Summit* nicked.

Seed-bud and Shaft, where only pointals, the same.

Summits 2; bent back.

S. VESS. none. *Empalement* slightly approaching.

SEEDS, where both Chives and Pointals, solitary; inversely egg-shaped; compressed; furrowed. *Feather* hair-like.

Where only Pointals the same, only slightly compressed. *Feather* none.

RECEPT. naked; flat.

ESS. CHAR. *Receptacle* naked. *Feather* simple. *Empal.* scales in 2 rows; equal; longer than the florets of the centre. *Seeds* of the circumference naked, and without a feather.

DORO'NICUM *Pardalian'ches*. Leaves heart-shaped, great blunt, finely toothed; root-leaves on leaf-stalks; stem-leaves embracing the stem.—

Ludw.

Ludw. 57.—*Blackw.* 239.—*Clus.* ii. 19, repr. in *Ger. em.* 762, and cop. in *Park.* 321. 7, and *H. ox.* vii. 24. 4.—*Mill.* 128.—*Garf.* 15.

Stem branched. *Seeds* of the circumference naked. LINN.

Leopard's-bane. *Wolff's-bane.*

About Hoddam Castle, Annandale, and several other places in the Lowlands. LIGHTF.—[Near Duplin House. ST.]

P. May. June.

Two drams occasioned a sense of inflation in the stomach, and of general weakness, but these symptoms were of short duration. It has been recommended in vertigo, epilepsy, and menstrual obstructions, but these powers want the confirmation of a more accurate experiment. ST.

1042. BELL' LIS. Daify.

EMPAL. *common*, simple; upright; leaves from 10 to 20, placed in a double row; spear-shaped; equal.

BLOSS. *compound*, radiate. *Florets* with *Chives* and *Pointals*, tubular; numerous; in the centre. *Florets* with only *Pointals*, narrow; more in number than the leaves of the cup; in the circumference.

Individuals with *Chives* and *Pointals*, funnel-shaped; with 5 clefts.

Individuals with only *Pointals*, narrow; spear-shaped; very slightly marked with 3 teeth.

CHIVES. *Threads* 5; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seed-bud*, where *chives* and *pointals*, egg-shaped. *Shaft* simple. *Summit* notched at the end.

Seed-bud, where only *pointals*, egg-shaped. *Shaft* thread-shaped. *Summits* 2; standing wide.

S. VESS. none. *Cup* unchanged.

SEEDS in all the *florets*, solitary; inversely egg-shaped; compressed. *Feather* none.

RECEPT. naked; conical.

ESS. CHAR. *Receptacle* naked; conical. *Feather* none.

Empalement hemispherical; *scales* equal. *Seeds* inversely egg-shaped.

common BELL' LIS *peren'nis*. *Stalk* naked.—

Curt. i. 3.—*Fl. dan.* 523.—*Valc.*—*Blackw.* 200.—*Ludw.* 184.—*Math.* 912.—*Dod.* 265. 1, *repr. in Lob. obs.* 252. 2, *ic.* i. 476. 1, *Ger. em.* 636. 5, *improved in Pet.* 19. 2.—*Ger.* 510. 4, *cop. in H. ox. vi.* 3. 26.—*Ger.* 510. 3, *cop. in Ger. em.* 636. 4, *Park.* 530. 11, *and H. ox. vi.* 3. 29.—*Fuchs.* 147, *cop. in Trag.* 161.—(*J. B.* iii. a. 111. 2, *is a different plant.*)

Stalk with 1 flower. LINN.—*Stalk* hairy, solid at the bottom, hollow at the end, sometimes with a few leaves. RELHAN.—*Florets of the circumference* notched at the end, Mr. WOODWARD—and tipped with a fine carmine. WITH.—*Leaves* oblong, blunt, notched, spread upon the ground. *Florets* in the centre yellow, those in the circumference white above, pink beneath.

Daisy.—Meadows and pastures.

P. March—Sept.

The leaves are slightly acrid. The roots have a penetrating pungency. No attention is paid to it, except what it claims from the beauty of its flowers. The flowers close at night.

Horses, Sheep, and Cows refuse it. LINN.—A Horse eat the double variety. SR.

β Flower herbaceous, globular.

In Mr. Selden's copse near his house in Worcestersh. RAV.

Bellis flore herbaceo globoso. R. syn. 184. ST.

1048. CHRYSAN'THEMUM. Goldins.*

EMPAL. *common*, hemispherical; tiled. Scales lying close upon each other; the inner becoming gradually larger; the very innermost terminating in a skinny scale.

BLOSS. *compound*, radiate. Florets with Chives and Pointals, numerous; tubular; in the centre. Florets with only Pointals, 12 or more; in the circumference

Individuals with Chives and Pointals, funnel-shaped; with 5 clefts; open; as long as the cup.

Individuals with only Pointals, narrow; oblong; with 3 teeth.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder; generally shorter than the blofs.

POINT. *Seed-bud*, where chives and pointals, egg-shaped. Shaft thread-shaped; longer than the chives. Summits 2; rolled back.

Seed-bud, where only pointals, egg-shaped. Shaft thread-shaped; as long as the other. Summits 2; blunt; rolled back.

S. VESS. none. Cup unchanged.

SEEDS in all the florets, solitary; oblong. Feather none.

RECEPT. naked; dotted; convex.

ESS. CHAR. *Receptacle naked. Feather none, [a border. Syft. plant.] Empalement hemispherical, tiled; the scales at the edge membranaceous.*

OBS. In the first division of the species, the florets with only pointals spear-shaped, and the membranes of the cup narrow. But in the second division egg-shaped and lopped, and the membranes of the cup egg-shaped.

* Florets of the circumference white.

Daisy CHRYSAN'THEMUM *Leucan'themum*. Leaves embracing the stem, oblong; the upper serrated; the lower toothed.—

* *Or-eye* has been adopted by some as a generic name, but this should be assigned to *Buphtan'themum*. ST.

Ludw. 183.—Sheldr. 6.—Math. 910, cop. in Dod. 265. 3, which repr. in Lob. obs. 253. 2, ic. i. 473. 1, Ger. em. 634, and cop. in Park. 528. 1.—Valc.—Ger. 509.—Fuchf. 148, cop. in J. B. iii. a. 114. 2.—Trag. 144. 1, cop. in Lonic. i. 89. 1.—Pet. 19. 1.—Blackw. 42.—H. ex. vi. 8. 1. f. 2.

Seeds black, with white cores, and crowned with a yellow cylindrical head. LINN.—Seeds with 10 angles. LIGHTF. Mr. WOODWARD.—Root-leaves on leaf-stalks; stem-leaves fitting. Flower large. Florets of the centre yellow; of the circumference spear-shaped, with mostly 3 teeth. Shafts saffron-coloured. RELHAN.—Stem upright, scored, simple, or with few branches. Leaves, the upper sometimes embracing the stem, oblong-wedge-shaped or spear-shaped, ferrated, sometimes toothed, and even wing-cleft at the base. Flower 1, terminating the stem, and principal branch. Empalement spear-shaped, unequal. Florets of the circumference strap-spear-shaped, with 2 or 3 teeth, sometimes entire. Mr. WOODW.—Empal. outer scales green, edged with brown, the inner with the addition of a skinny membranaceous border. WITH.

Greater Daisy. Ox-eye. [Moon-flower, and the flowers moons.]

Dry meadows and pastures.

P. May. June.

The young leaves may be eaten in fallads.

Horses, Sheep, and Goats eat it. Cows and Swine refuse it.

CHRYSAN'THEMUM *inodorum*. Leaves winged, Chamomile with many clefts. Stem branched, spreading. LINN.—Seeds with a gland at the top at each corner. Sr.*

F. dan. 696.—Pet. 19. 12.—Valc?—Fuchf. 144, cop. in J. B. iii.

a. 129. 2.—(H. ex. vi. 12. 8, is *Anthemis Cotula*, being an abridged copy of Dod. 253.)

Its empalement shining at the edge occasions it to be associated with the *Chrysanthemum*. This obscure plant is readily distinguishable from *Anthemis Cotula*, which it very much resembles, as also *A. arvensis*, by the want of chaff on the receptacle; and from *Matricaria Chamomilla* by its flattish empalement; its scales brown and uneven at the edge; its receptacle hemispherical, not conical; the rays of the blossom expanding, not bent down; and its flowers being thrice as large. LINN.—Stem much branched, smooth, scored, sometimes purplish. Leaves, wings distant, twice or thrice divided, the extreme segments thread-shaped; mid-rib broad, membranaceous, and somewhat embracing the stem at the base, narrowing upwards. Flowers large, terminating. Empal. scales bluntly

* Seminibus extorsum biglandulosis. Sr.

bluntly spear-shaped, unequal, with a green line along the back. *Florets of the circumference* nearly strap-shaped, 8 to 9 lines long; of the centre greenish at the base, yellow above; segments spear-shaped, expanding. *Receptacle* conical. *Seeds* brown, lopped at each end, with 4 whitish prominent angles. Mr. WOODWARD.—*Stem* scored. *Leaves*, segments hair-like. *Empal.* the middle row of scales the largest, all more or less membranaceous and skinny. *Florets of the circumference* bent back, 20 or more; those in the centre very numerous, yellow. WITH.—*Shaft* scarcely longer than the chives and blossom. *Summits* bowed back, compressed. *Seeds* oblong-wedge-shaped, slightly compressed, brown, with 3 sides, and 3 angles, the outer side the broadest, convex, somewhat prominent along the back, with a brownish red circular gland in each corner at the top, resembling the eyes of some insects; the 2 inner sides concave; the angles sharp, prominent, and whitish, crowned at the top with a very shallow, whitish, membranaceous border. ST.

Matricaria inodora. Fl. suec. and HUDS. which see.

Corn fields and road sides.

A. July—Sept.

* * *Florets all yellow.*

Marigold CHRYSAN'THEMUM *seg'etum*. Leaves embracing the stem; the upper jagged; the lower tooth-ferrated.—

Clas. i. 334. 2, repr. in Dod. 263. 1, Lob. obs. 298. 2, ic. i. 552. 1, Ger. em. 743. 1, and cop. in Park. 1370. 1, and abridged in H. ex. vi. 4. row 2. 1; and Pet. 19. 6.—*Trag.* 144. 2, and cop. in Lonic. i. 89. 1.—J. B. iii. a. 105. 1, ill done, if the plant.

Empalement convex. *Florets of the circumference* strap-shaped, with 3 irregular teeth at the end. RELH.—*Stem* upright, scored, smooth, branched. *Leaves* sea-green, varying in figure, as wedge-strap or spear-shaped, distantly ferrated towards the base, usually deeply toothed or jagged, with frequently 3 clefts at the end. *Flowers* very large, terminating. *Empal.* scales oval, blunt, sea-green, with membranaceous edges. *Florets of the circumference* oval, about half an inch long. *Seeds* slightly ferrated, whitish. Mr. WOODW.—*Whole plant* smooth. *Leaves*, segments terminated by a little projecting point. *Florets of the circumference* egg-shaped. *Summits* in the flowers with only pointals, frequently 3. WITH.

Corn Marigold. Goulans. Goldäns. [Buddle in Norfolk. Mr. WOODWARD.]

Corn fields. [An extremely troublesome weed in the Norfolk turnep fields in a sandy soil. Mr. WOODWARD.]

A. June—Aug. [to Oct. ST.]

It

It was imported into Sweden along with corn from Jutland, about the end of the last century. In Denmark there is a law to oblige the farmers to root it up from their corn fields. It may be destroyed by dunging the ground in autumn, followed by a summer fallow, and harrowing the land about five days after sowing the grain. Its yellow flowers, however, which follow the sun in a very remarkable manner, give a brilliancy to the fields in tillage, and please the eye of the passing traveller. LINN.—A large quantity, which grew on some arable land, was cut when in flower, dried, and eaten by Horses as a substitute for hay. MR. HOLLEBEAR.—It is used by the Germans for dying yellow. ST.

1049. MATRICA'RIA. Feverfew.

EMPAL. common, hemispherical. Scales strap-shaped; tiled; not quite equal.

BLOSS. compound, radiate. Florets with Chives and Pointals, tubular; numerous; in the centre; which is hemispherical. Florets with only Pointals, many; in the circumference.

Individuals with Chives and Pointals, funnel-shaped; with 5 clefts; expanding.

Individuals with only Pointals, oblong; with 3 teeth.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud, where chives and pointals, oblong; naked. Shaft as long as the chives; thread-shaped. Summit cloven; expanding.

Seed-bud, where only pointals, naked. Shaft thread-shaped; as long as in the others. Summits 2; rolled back.

S. VESS. none. Cup unchanged.

SEEDS in all the florets, solitary; oblong. Feather none.

RECEPT. naked; convex.

ESS. CHAR. Receptacle naked. Feather none. Empalement hemispherical, tiled; the scales at the edge solid, and rather pointed.

MATRICA'RIA Parthenium. Leaves compound, common flat; leaflets egg-shaped, cut. Fruit-stalks branched.—

Ludw. 192.—Garf. 368.—Blackw. 192.—Fuchf. 45, cop. in J. B.

iii. a. 129.—Dod. 35. 2, repr. in Lob. obs. 433. 1, ic. i. 751.

1, Ger.

1, *Ger. em.* 652. 1, and *cop. in Park.* 83. 1, and *Pet.* 19. 5.—*Mauh.* 907, *abridged in H. ox.* vi. 10. 1.—*Ger.* 526.—*Fl. dan.* 674.*—*Lonic.* i. 151. 2.—*Trag.* 156.

Stem 3 feet high, firm, upright, branched. *Leaves* roughish. *Fruit-stalks* naked, in a kind of rundle. *Empal.* scales with a dry membranaceous border, like that of the *Chrysanthemum*. HALL. Mr. WOODWARD.—*Leaves* winged; mid-rib narrow, insensibly disappearing as it advances. *Florets of the circumference* short. HALL. ST.—*Stem* scored, slightly hairy. *Leaves* alternate, slightly hairy; *leaflets*, 2 or 3 pair, oval, jagged, a large one terminating, wedge-shaped, with 3 lobes, the middle one of which with 3 clefts, the side ones scolloped. *Flowers* solitary. *Fruit-stalks* thickest just beneath the flower, hairy, mostly branched. *Empal.* scales oval. *Florets of the circumference* wedge-shaped; white; *those of the centre* yellow. *Seeds* egg-shaped, lopped at the base, deeply furrowed, whitish. *Receptacle* dotted. Mr. WOODWARD.—*Stems* angular, scored. *Leaves* with winged clefts; *leaflets* oblong or egg-shaped, deeply divided into about 5 segments, and these again cut and jagged, when magnified appear as if sprinkled with minute spangles. *Empal.* inner scales skinny and ragged at the edges. *Florets of the circumference* egg-shaped; *those of the centre* crooked, sprinkled with minute shining particles, only yellow at the top. WITH.

Matricaria, R. syn. 187. ST.

Feverfew.—Waste places, hedges, and walls.

P. RELH. ST. June, July.

The whole plant has a strong smell, and a bitter taste, and yields an essential oil by distillation.—A Horse refused it. ST.

sea MATRICA'RIA *maritima*. Receptacles hemispherical. Leaves doubly winged, somewhat fleshy, convex above, keeled underneath.†—

Ray 7. 1. at p. 188.

* Leaves too pointed. Mr. WOODWARD.

† MATRICA'RIA *inodora*. Receptacles hemispherical. Seeds crowned and bordered. Scales of the empalement imperfect at the edge. Stem spreading. HUDS. including the following as varieties. ST.

α *Chrysanthemum inodorum*, which see.

β *Chamæmelum majus folio tenuissimo, caule rubente*. R. syn. 186.

γ *B.* iii. a. 121.

γ *Matricaria maritima*, which see.

Corn fields and road sides.

A. B. July, Aug. HUDS.

Root

Root woody, running deep, apparently perennial. Stems reclining, darkish purple, smooth, firmer and stronger than those of *Anthemis nobilis*, and forming a fuller turf, but not creeping or spreading so wide. Leaves thicker and shorter, shining, dark green. Flowers several on a stem. DILL. in R. syn. 186.—Florets in the centre yellow; those in the circumference white.

Matricaria inodora γ HUDS.

It is to be wished that Mr. Hudson had assigned his reasons for thus arranging it as a variety of the *Chrysanthemum inodorum* of Linnæus. I have no native specimen of it, neither does Mr. Hudson mention any place of growth. But in one given me by the son of Professor Jacquin, which accords well with the figure in R. syn. the seeds exactly correspond with those of *C. inodorum*, which induces me to believe that Mr. Hudson's designation may be just. ST.

Sea coast, in sandy soil. On the coast of Sussex, and very plentifully at Cockbush, 7 miles from Chichester. DILL.—Island of Bute, the Western side of Cantire, between Machrianish and Barr. LIGHTF.—[Rocks at Down, near Bamff, in Scotland. Dr. SMITH.] P. July.

MATRICARIA *suaveolens*. Receptacles conical; rays bent downwards. Scales of the cup equal at the edge.—

Ger. 15. 1.

No difference perceptible between this and *M. Chamomilla*, except that the rays were larger, and bent down. Probably a variety of it. LIGHTF. ST.—Leaves compound; leaflets hair-like. Empal. Scales somewhat membranaceous, the edges as it were dead. Mr. HOLLEFEAR.—Empal. scales blunt, membranaceous at the points and edges, and the inner wholly membranaceous. Hence how uncertain the limits between *Matricaria* and *Chrysanthemum*. ST.—Florets in the centre yellow; those in the circumference white.

Matricaria Chamomilla β HUDS.

Corn fields, in a sandy soil.

A. June—Aug.

Goats, Sheep, and Horses eat it. Swine refuse it.

MATRICARIA *Chamomilla*. Receptacles conical; rays expanding. Scales of the cup equal at the edge. LINN.—Stem upright. HUDS.*

* Omitting the mention of the rays expanding, or bent down, and including *M. suaveolens* as a variety. ST.

Ludw. 131.—*Curt.* v. 56.—*Blackw.* 67. 1.—*Sheldr.* 33.—*Dod.* 257. 2, repr. in *Lob. obs.* 445. 1, ic. i. 770. 1, *Ger. em.* 754. 1, and cop. in *Park.* 85. 1.—*Blackw.* 298.—*Fuchf.* 25, cop. in *J. B.* iii. a. 116, and abridged in *Trag.* 148.—*Matth.* 905.—*Lonic.* i. 90. 2.—*H. ox.* vi. 12. 7.—*Pet.* 19. 9.

Stem scored, branched. *Leaves* doubly winged, the upper often simply winged; wings distant; little wings with 2 or 3 clefts; leaflets strap-shaped, of an equal breadth with the mid-rib. *Flowers* solitary, terminating. *Empal.* scales bluntly spear-shaped, hairy, membranaceous at the edge, with a green line along the back. *Florets of the circumference* white, nearly strap-shaped, at first expanding, afterwards bent back; *those of the centre* yellow. *Receptacle* almost cylindrical, dotted. *Mr. Woodward.*—*Leaves* more than doubly compound, with slender segments. *Seeds* numerous, minute, pale brown, furrowed, *Curt. St.*—somewhat bowed inwards, the furrows deeper and more numerous on the inner side, the ridges white. *St.*

Corn fields, cultivated ground, dunghills, and road sides.

A. May—Aug.

Its properties resemble those of *Anthemis nobilis*. The Finlanders use an infusion of it in consumptives cases.

Cows, Goats, and Sheep eat it. Horses are not fond of it. Swine refuse it.

1052. AN'THEMIS. Chamomile.

EMPAL. common, hemispherical. Scales strap-shaped; nearly equal.

BLOSS. compound, radiate. Florets with Chives and Pointals, tubular; numerous; in the centre, which is convex. Florets with only Pointals, many; in the circumference.

Individuals with Chives and Pointals, funnel-shaped; with 5 teeth upright.

Individuals with only Pointals, narrow; spear-shaped; sometimes with 3 teeth.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud, where both chives and pointals, oblong. Shaft as long as the chives; thread-shaped. Summits 2; bent back.

Seed-bud, where only pointals, oblong. Shaft the same as in the others. Summits 2; rolled back.

VESS. none. Cup unchanged.

SEEDS in all the florets, solitary; oblong. Feather none.

RECEPT. chaffy; conical.

ESS. CHAR. Receptacle chaffy. Feather none. Empalement hemispherical; nearly equal. Florets of the circumference more than 5.

* Rays of a different colour from the centre, white.

AN'THEMIS *maritima*. Leaves winged, finely sea-othed, fleshy, naked, dotted. Stem prostrate. Empal. somewhat cottony.—

J. B. iii. a. 122. 1.—Till. pis. 19. 3.—I have never seen the plant.

—Bauhine's figure accords with the description of Linnæus and Ray.—The leaves of Tilli's figure are with winged clefts strap-shaped.

Stems widely prostrate, smooth, purplish. Leaves winged, cut, ed, sprinkled with hollow dots, more closely toothed towards base, with a purplish, elevated, transverse line beneath the base. Stalks terminating, solitary, somewhat scored, downy, thicker ve. Flowers of the scent of *M. Parthenium*. LINN.—Florets in centre yellow.

Meadows on the sea coast.

P. July. Aug.

common AN'THEMIS *nobilis*. Leaves winged-compound, strap-shaped, pointed, somewhat woolly. LINN.—Seeds naked. HUDS.

Ludw. 155.—Blackw. 298. 1.—Garf. 215. a, and 4 on the right hand.—Dod. 260. 1, repr. in Lob. obs. 445. 2; ic. i. 770. 2, Ger. em. 755. 4.—Blackw. 526.—Trag. 149.—Ger. 616. 4.—J. B. iii. 118.—Pet. 19. 10.

Stems trailing, hairy. Leaves doubly winged; wings rather distant; little wings sometimes with 2 or 3 clefts, pointed, hairy, greyish. Flowers solitary. Empalement hairy, with broad, shining, membranaceous edges. Florets of the circumference somewhat elliptical, either entire, or with 2 or 3 teeth; those of the centre yellow. Mr. WOODW.—Stems and fruit-stalks cylindrical, scored, a little woolly. Leaflets with several unequal, nearly cylindrical segments, a little hairy. Empalement skinny at the edges, and set with a few hairs along the green part in the middle. Florets of the circumference with 3, or 2 teeth, and sometimes entire; all, but especially those of the centre, sprinkled with small, transparent, shining globules. Summits, where only pointals, sometimes 3. Chaff oblong-egg-shaped, like the scales of the empalement, but more skinny, and rather more hairy. Specimen cultivated, and the flowers tending to double. WITH.

Sweet-scented Chamomile. Roman Chamomile.

Boggy pastures. In Cornwall so plentifully that you may scent it all along as you ride. RAY.—Sunny meadows and pastures. HUDS.—[On the Green at Plengwary, Redruth, and other old common pastures in the Western part of Cornwall, where it is much finer scented than in gardens. Mr. WATT.—Park at Oatlands, Surrey. Mr. WOODWARD.] P. Aug. Sept.

The leaves and flowers have a strong, not ungrateful smell, and a bitter nauseous taste. They afford an essential oil.—An infusion of the flowers is often used as a stomachic, and as an antispasmodic. In large quantities it excites vomiting.—The powdered flowers, in large doses, have cured agues, even when the Bark had failed.—Both the leaves and flowers possess very considerable antiseptic properties, and are therefore used in antiseptic fomentations, and poultices. From their antispasmodic powers, they are frequently found to relieve pain, either applied externally, or taken internally. Ray recommends the flowers in calculous cases.

β nudum. Florets of the circumference wanting. ST.

Dod. 260. 2, repr. in Lob. obs. 446. 1; ic. i. 771. 2, Ger. em. 754. 2, and cop. in Park. 86. 2, J. B. iii. a. 119. 2, and H. ox. vi. 12. 3.—Ger. 615. 2.

Chamamelum luteum capitulo aphylo. R. syn. 185. ST.

AN'THEMI

AN'THEMIS *arvensis*. Receptacles conical. Chaff *corn* bristle-shaped.* Seeds crowned with a border. LINN.—Leaves somewhat woolly. HUDS.†

Pet. 19. 8.—(Walc.—may be the true *A. arvensis*, but there being no appearance of chaff, it should seem to be *Chrysanthemum inodorum*.)

Plant hoary. Appearance and height of *A. Cotula*. Stems more spreading. Fruit-stalks longer, not so much scored; scores 4 or 5. Leaves more hoary, scentless. Empal. inner scales widened and membranaceous at the end. Chaff spear-shaped. Seeds crowned with a 4-cornered border as in *Chrysanthemum inodorum*. LINN.—Root hard, woody. Stems numerous, slender, hard, but flexible. Leaves fine, whitish. DODON. ST.—Stem branched immediately above the root, scored, slightly hairy, pale green, with sometimes a tinge of red. Branches generally naked upwards. Leaves sitting, winged; mid-rib broad; wings either winged, or only jagged, sea-green. Flowers terminating. Fruit-stalks hairy, and somewhat thick beneath the empalement. Empal. scales oval, with an awl-shaped green line along the back, somewhat hairy; edges membranaceous. Florets of the circumference white, somewhat elliptical, with 2 or 3 teeth, 4 or 5 lines long; those of the centre with a greenish tube, swelling upwards; border yellow, bent back. Chaff spear-shaped, very much pointed, somewhat keeled, as long as the florets. Seeds quadrangular, smooth, slightly furrowed, narrowest at the base, crowned with a blunt margin. Mr. WOODW.—Whole plant slightly woolly. Stems numerous, ascending, cylindrical, slightly scored, branched towards the top. Leaves winged;

* Spear-shaped. Fl. suec. both in the character and description, and in the description in *Sp. et syl. pl.* ST.

† Linnæus cites no figure, and Ray, Hudson, and Lightfoot only Pet. 19. 8. The figures added above appear to me to be the same plant, and all of them are good representations of what I believe to be the *Chamæmelum inodorum*. R. syn. 125. This plant is cited by Linnæus, but with a mark of doubt. I do not presume to assert that the *A. arvensis* is not a native, but the seeds of the plant, which I consider as figured by Petiver, are *inversely* conical, slightly angular, lopped, smooth, not covered with rough points, as those of *A. Cotula*, or the angles or top edged with a membranaceous border, as in *Chrysanthemum inodorum*, or opaque border as in *A. austriaca* of Jacquin. If the seeds should not prove liable to vary in the absence or presence of the margin at the top, as those of *A. Cotula* do in the degrees of roughness, I am inclined to think it will turn out to be a distinct species. When in flower it not unfrequently whitens whole fields. It accords well with Dodonæus's description of *Cotula alba*, *sive Oculus bovis*, and the root has the appearance at least, of being like that, perennial. ST.

leaflets with winged clefts, and these again cut into 2 or 3 narrow segments, terminated by semi-transparent, conical, sharp points.

Cotula alba. *Cotula non fœtida*. *Oculus bovis*. *Bupthalmum*. DOD. pempt. 259, is the plant noticed in the note below, and here described. ST. WITH.

Gravel pits in Peckham Fields, and in the barren stubble fields between Eltham and Shooter's-hill. RAY.—Corn and fallow fields. HUDS.—Corn fields and way sides, in gravelly soils. PARSONS in *Fl. scot.*—[Pastures about Affcote and the Stewponey, near Stourbridge, Worcestershire. ST.]

B. JUNE, JULY.

Cows and Sheep eat it. Horses are not fond of it. LINN.

β All the florets narrow. ST.

Cotula non fœtida flore pleno. R. syn. 186. ST.

St. James's field on the upper side near the highway, and at Great Strickland, Westmoreland. R. syn.

slinking AN'THEMIS *Cotula*. Receptacles conical. Chaff bristle-shaped. Seeds naked. LINN.—Leaves naked. HUDS.—Seeds with rough points. HALL. ST.

Curt. v. 56.—Dod. 258, repr. in Lob. obs. 447. 1, ic. i. 773. 2,

Ger. em. 757. 1, and ill cop. in Park. 87. 9, and abridged in H.

ox. vi. 12. 8.—Fuchs. 583, cop. in J. B. iii. a. 121. 1.—

Blackw. 67, leaflets rather bristle-shaped.—Garf. 216.—Pet. 9.

11.—H. ox. vi. 12. 10.—(Sheldr. 33, and Blackw. 67,† are

Matricaria (*Chamomilla*, and Pet. 9. 12, is *Chrysanthemum inodorum*.)

Fruit-stalks with about 8 scores. Empal. scales by no means widened towards the point, and scarcely membranaceous. Chaff very minute, like a fine bristle. Seeds not crowned with the 4-cornered edge, but terminated by a simple pore. LINN.—Leaves doubly winged, broadish; mid-rib leafy. Seeds rough with points on all sides. HALL. ST.—Stem upright. Leaves smooth. LEERS. WITH.—Plant palish green. Stem slightly downy. Leaflets often cloven towards the end. Petals hanging down, and continuing in that state till morning. CURT.—Stem upright, branched upwards. Branches alternate. Leaves doubly or trebly winged, green. Flowers solitary, terminating. Empal. scales spear-shaped. Chaff shorter than the florets. Seeds with many warty angles. Mr. WOODW.—Stem scored. Leaves slightly woolly. Bloss. of the circumference elliptical-oblong, with 3 teeth. Seeds inversely egg-shaped, lopped at the end, with a prominent point in the middle, before they ripen

† TREW on Blackw. t. 67, judiciously observes on his synonym of *Cotula fœtida*, Ger. em. 757, "cum icone *Cotulæ albæ* Dodonæi non conveniente." ST.

ripen crowned with a fleshy herbaceous substance formed of the tube of the blossom. ST.—*Florets of the circumference with 3 teeth; those of the centre yellow.*

Stinking May-weed. [Mathen.]

Corn fields, road sides, and borders of dunghills. A. May—Aug.

Toads are said to be fond of this plant.—It is very ungrateful and displeasing to bees.—Goats and Sheep are not fond of it. Horses, Cows, and Swine refuse it. LINN.

It frequently blisters the skin of reapers and of children who happen to gather it. The heads, rubbed between the fingers, smell intolerably disagreeable. The larvæ of the *Cassida viridis* feed upon it. CURT.

β All the florets narrow. ST.

Cotula fœtida flore pleno. R. syn. 185. ST.

Fields between Hitchin and the Bald Oak, in the Isle of Thanet, and between Gillingham and Chatham. R. syn.

** Rays of the same colour with the centre, yellow.

AN'THEMIS *tinctoria*. Leaves doubly winged, Ox-eye ferrated, cottony underneath. Stem supporting a broad-topped spike. LINN.—*Leaves winged; wings with winged clefts.* MR. WOODWARD. ST.

Blackw. 439.—Fl. dan. 741.—Ger. 607. 3.—Matth. 909.—Barr.

465.—Clus. i. 332. 2, repr. in Ger. em. 747.—Pet. 19. 7.—

Fuchs. 26, cop. in J. B. iii. a. 122. 2, and imitated in Trag.

152.—Garf. 419.

Stem hard, angular. Leaves hoary underneath, winged, with a broad mid-rib; wings simple. Flowers, one terminating each branch. Seeds in the circumference bowed inwards. HALL. ST.—Stem scored, slightly hairy, much branched. Leaves, the lower winged; wings spear-shaped, toothed, slightly hairy and green above, seagreen underneath; the lower wings short, distant, toothed; the upper wings with winged clefts; mid-rib broader than the wings; the upper-leaves with winged clefts; mid-rib broad toothed; wings irregular, strap-spear-shaped, toothed; the uppermost leaves sometimes simply toothed. Fruit-stalks long, naked, scored, slightly hairy, terminating the stem and branches, each with 1 flower. Empalement tiled; scales numerous, the outer of various lengths, spear-shaped, hairy, with a green line along the back, white and shining at the edge. Florets of the circumference broad, with 3 teeth. MR. WOODWARD.—Stems scored, woolly. Leaves winged; leaflets with winged clefts, the segments tapering, finely pointed. Empalement hollowed on the under side round the fruit-stalk, woolly. WITH. ST.—Seeds oblong, somewhat taper-

ing towards the base, slightly compressed, pale brownish yellow, sides very slightly scored, edges rather sharp and somewhat prominent; top lopped, and surrounded with a shallow, sharp, somewhat membranaceous edge. ST.

Ox-eye.—Sunny pastures, but not common. On a bank near the River Tees, not far from Sogburn, Durham. R. syn. P. July, Aug.

The flowers afford a remarkably clear and good yellow dye.—The flowers of the *Chrysanthemum segetum* resemble them much in appearance, but experience proves they cannot be substituted in their place.—Horses and Goats eat it. Sheep are not fond of it. Cows and Swine refuse it.

1053. ACHILLE'A. Yarrow.

EMPAL. common, oblong; egg-shaped; tiled. Scales egg-shaped; sharp; approaching.

BLOSS. compound, radiate. Florets with Chives and Pointals, 15 to 16; tubular; in the centre. Florets with only Pointals, 5 to 10; narrow; in the circumference.

Individuals with Chives and Pointals, funnel-shaped; with 5 clefts; open.

Individuals with only Pointals, narrow; inversely heart-shaped; expanding; cloven into 3 segments; the middlemost the smallest.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seed-bud, where both chives and pointals, small. Shaft thread-shaped; as long as the chives. Summit blunt; notched at the end.

Seed-bud, where only pointals, small. Shaft thread-shaped; as long as the other. Summits 2; blunt; bent back.

S. VESS. none. Cup but little changed. The Receptacle thread-shaped; lengthens out into the centre of the seeds; egg-shaped; and twice as long as the empal.

SEEDS in all the florets, solitary; egg-shaped; woolly. Feather none.

RECEPT. chaffy; elevated. Chaff spear-shaped; as long as the florets.

ESS. CHAR. Receptacle chaffy. Feather none. Empalement egg-shaped; tiled. Florets of the circumference about 4.

* Rays of the blossom, white.

ACHILLE' A *Ptar'mica*. Leaves spear-shaped, taper- Sneeze-wort
ing, sharply ferrated.—

Ludw. 118, but ferratures of the leaves not expressed.—*Walc.*—*Fuchf.* 639, cop. in *J. B.* iii. a. 147, and abridged in *Trag.* 159, and *Lonic.* i. 235. 2.—*Pet.* 19. 3.—*Fl. dan.* 643.—*Garf.*—*H. ox.* vi. 12. row 3. 1. f. 1.—*Blackw.* 276.—*Clus.* ii. 12. 1, repr. in *Dod.* 710. 1, *Lob. obs.* 243. 3, ic. i. 455. 2, *Ger. em.* 606. 1, and cop. in *Ger.* 483. 1, and *Park.* 859. f. 1.—*Matth.* 585.

Stem not so woolly, slender, or angular as *A. Millefolium*. Flowers fewer, and larger. Empalement not so much tiled. Florets of the circumference more numerous, 18 to 13. RELHAN.—Stems 1 to 2 feet high, firm, somewhat angular, smooth, often reddish. Leaves upright, scattered, sitting, firm, smooth, strap-spear-shaped, dark green, ferratures very minute. Fruit-stalks somewhat cottony, with or without a floral-leaf. Empal. scales spear-shaped, keeled, cottony, bright green; edges membranaceous and reddish brown. Florets of the circumference oval, broad, with 3 teeth, and a short tube; those of the centre very short, dirty yellow. Mr. WOODW.—Stems angular, somewhat woolly. Leaves half embracing the stem; ends of the ferratures white, and almost of a bony hardness. Empal. scales woolly without, brownish and skinny at the edges. Florets of the circumference rarely more than 12; those of the centre numerous. Chaff woolly. WITH.

Sneeze-wort. Goose-tongue. Bastard Pellitory.—Moist meadows and shady places, [and balks of corn fields. ST.] P. July, Aug.

The roots have a hot biting taste.—The young tops are sharp and pleasant in spring fallads.—The powdered leaves excite sneezing.—Horses, Cows, Sheep, Goats, and Swine eat it.

β Flowers double. LINN. *R. syn.*—Leaves truly spear-shaped, ferratures deeper, as in the figures of *H. ox. Dod.* &c. Mr. WOODWARD.

Clus. ii. 12. 2, repr. in *Ger. em.* 606. 2.

All the florets, except a few in the very centre, narrow. WITH.

Dracunculus pratensis flore pleno. CLUS. hist. II. 12. Bauh. pin. 98. ST.

Small Holme Island in Winander-mere, and at Chilmark, Wiltshire. *R. syn.*—[At Ripton. Found by Mr. J. Whitelocke, nurseryman at Fulham. Mr. WOODWARD.]

ACHILLE' A *Millefo'lium*. Leaves doubly winged, Milfoil
naked; segments strap-shaped, toothed. Stem furrowed
upwards.—

Ludw.

Ludw. 67.—*Fl. dan.* 737.—*Anderf.*—*Blackw.* 18.—*Clus.* i. 331, repr. in *Dod.* 100. 2, *Lob. obs.* 431. 1, *ic.* i. 747. 2, *Ger. em.* 1072. 2, cop. in *H. ox.* vi. 11. 14, and abridged in *Pet.* 19. 4.—*Ger.* 914. 2.—*Lonic.* i. 240. 1.—*Garf.* 388.—*Ger.* 914. 1.—*Fuchf.* 727, cop. in *J. B.* iii. a. 136, and abridged in *Trag.* 477.—*Matth.* 1142, imitated in *Dod.* 100. 1, which repr. in *Lob. obs.* 430. 2, *ic.* i. 747. 1, *Ger. em.* 1072. 1, and cop. in *Park.* 694. 1.—*H. ox.* vi. 11. 6.—*Matth.* 1141.

Stem angular, cottony. *Fruit-stalks* cottony. *Empal.* scales spear-shaped, keel green, edges membranaceous. *Mr. Woodw.*—*Leaves* woolly; segments toothed. *Flowers* in a broad-topped spike. *Bloss.* white, or reddish purple. *Empal.* scales woolly, skinny at the edges. *Florets of the circumference*, 5; border nearly circular, bent back, slightly cloven into 3; those of the centre 15 or more, but not more than 4 or 5 expanding at once. *Tips* yellow. *With.*

β Blossoms purple, *Linn.*—and sometimes nearly crimson.—Authors have given distinct figures of this, but the references to them are incorporated with those of the white, as these varieties differ only in the colour of the blossom. *Str.*

Yarrow. *Milfoil.*

Meadows, pastures, and road sides.

P. June—Aug.

The flowers yield an essential oil. The leaves are celebrated by the *Materia Medica* writers for a variety of purposes, but they are little attended to at present.

Sheep and Swine eat it. Horses, Cows, and Goats are not fond of it.

Order III.

POLYGAMIA FRUSTRANEA;

BARREN FLORETS.

1066. CENTAURE'A. Knap-weed.

EMPAL. common, tiled; roundish; scales often terminating variously.

BLOSS. compound, florets all tubular; but of different shapes. Florets with Chives and Pointals, many; in the centre. Florets with only Pointals, not so many; larger; more flexible; in the circumference.

Individuals with Chives and Pointals, petal 1. Tube thread-shaped. Border distended; oblong; upright; terminating in 5 strap-shaped, upright segments.

Individuals with only Pointals, petal 1. Tube slender; gradually becoming wider, bent backwards. Border oblong; oblique; unequally divided.

CHIVES. Threads 5; hair-like; very short. Tips forming a hollow cylinder, as long as the blossom.

POINT. Seed-bud, where chives and pointals, small. Shaft thread-shaped; as long as the chives. Summit very blunt; in many cloven; with a projecting point.

Seed-bud, where only pointals, very small. Shaft next to none. Summit none.

S. VESS. none. Cup unchanged; closing.

SEEDS in the fertile florets of the centre, solitary.

Feather either downy, as in the greater part of the species, or hairy.

ESS. CHAR. Receptacle bristly. Feather simple. Blossoms of the circumference funnel-shaped, longer, irregular.

OBS. The scales of the cup, and the feathers of the seeds, different in different species.

* Cyani. Scales of the empalement serrated-fringed.

CENTAURE'A *ni'gra*. Scales of the empalèments black fringed, with the little scale at the end egg-shaped; fringed, hair-like, upright. Leaves lyre-shaped, angular. Flowers without rays. LINN.—Leaves entire or jagged. RAY. Mr. WOODWARD.

Walc.

Walc.—Reich. fl.—Clus. ii. 7. 2, repr. in Dod. 124. 2, Lob. obs. 292. 3, ic. i. 541. 1, Ger. em. 727. 1, and cop. in Park. 468. 1, H. ox. vii. 28. row 2. 1, and Pet. 22. 8.—J. B. iii. a. 27. 2.—(Fl. dan. 519, has the scales of the empalement torn, as *C. Jacea*, to which Linnæus refers it.—Ger. 588. 1, seems also, from the appearance of the scales, to be *C. Jacea*.—In Pet. 22. 9, the fruit-stalks are naked.)

Differs from *C. phrygia* in the fringed little scale being egg-shaped, between upright and open, and not bowed back and awl-shaped. Alike to *C. Jacea*, but without neutral florets in the circumference. LINN.—Empalement black. Flower purple. RELH.—Leaves, the upper egg-spear-shaped, the uppermost strap-shaped. HALL. ST.—Stem angular, scored, slightly cottony, often tinged with purple. Branches as the stem, alternate, the upper one rising above the stem, thickest towards the top, with 1 flower. Leaves with winged clefts, or toothed, sometimes entire, spear-shaped, fitting, more or less cottony. Empal. outer scales spear-shaped, dark purple, almost black, with a long fringe, and there hairy; the middle ones yellow, strap-shaped below, spear-shaped and fringed at the end; the inner whitish, smooth, shining, strap-shaped, terminated by a broad, roundish, purple, little-scale, convex without, concave within, ragged, not fringed. Florets all alike; tube whitish, long; border purple, longer than the tips. Shaft shorter than the tips, with a downy ring beneath the summit. Summit slightly cloven. Mr. WOODWARD.

Knop-weed. Knop-weed. Horfe-knops. Matfellow. [Hard-heads, Worcestershire. Hard-irons, Staffordshire. ST.]

Meadows and pastures.

P. July, Aug.

A Horfe eat the young flowering stems. Gold-finches are fond of the seeds. ST.

β Leaves jagged. Huns.

γ Leaves spear-shaped, toothed. Flowers with rays. Huns. ST.—I have specimens at least in which I have not been able to discover any chives. ST.

(*Centaurea Jacea* of Linnæus is not referred to by Mr. Hudson, and I believe it to be a distinct species. ST.)

Blue-bottle

CENTAURE'A *Cyanus*. Cups ferrated. Leaves strap-shaped, very entire, the lowermost toothed.—

Ludw. 55.—Sheldr. 44.—Blackw. 270.—Walc.—Dod. 251. 1, repr. in Lob. obs. 296. 1; ic. i. 546. 2, Ger. em. 732. 2, and cop. in Park. 482. 2, and abridged in Pet. 22. 4.—Fuchf. 428, cop. in J. B. iii. 21. 3.—Ger. 592. 2.—Trag. 56.—Lonic. i. 182. 1.—Matth. 508.—H. ox. vii. 25. 4.

Blossoms

Blossoms blue, sometimes white, rose-coloured, or purple. LINN.
 —*Leaves*, the lowermost sometimes very entire. MR. HOLLEFEAR.
 —*Stem* 1 to 2 feet high, angular, firm, slightly cottony, branched upwards. *Leaves* numerous, whitish and cottony underneath, with 3 parallel ribs. *Branches* with 1 flower. *Empal.* scales spear-shaped, the outer green, tinged with purple, cottony, sharply serrated; serratures smooth, skinny, purplish without, white within, sometimes white on both sides; the inner entire. *Florets of the circumference*, segments spear-shaped, pointed; *those of the centre*, segments rather shorter than the tips. *Pointal* in the florets of the circumference none. *Summit*, where chives and pointals, triangular, purplish, rather shorter than the tips. *Feather* short, hair-like. MR. WOODWARD.—*Stem* angular, with small tufts of white wool. *Leaves* with 3 ribs. *Empalement* edged with brown, skinny, spear-shaped teeth. *Florets with chives and pointals*, the border filled with a honey-like juice. *Threads* surrounded just below the tips with a fringe of silvery glandular hairs. *Tips* almost black, horny at the top. *Shaft* a little hairy just beneath the summit. *Summit* cloven. WITH.

Blue-bottles. Corn-flower. Hurt-sickle. [Batchelor's-buttons, Yorkshire and Derbyshire. ST.]

Corn fields.

A. June—Aug.

The expressed juice of the petals is a good blue ink, it stains linen of a beautiful blue, but the colour is not permanent in the mode it has hitherto been applied. MR. BOYLE says, the juice of the central florets, with the addition of a very small quantity of alum, makes a lasting transparent blue not inferior to ultramarine.

Gent. Mag. 1748.

Cows, Goats, and Sheep eat it. Horses and Swine refuse it.

β Blossoms purple.

In a corn field. WITH.

CENTAURE'A *Scabiosa*. Cups fringed. Leaves greater with winged clefts; segments spear-shaped.—

Math. 969.—*J. B.* iii. a. 32. 2.—*Ger.* 588. 2, and 583. 5.—

(*Clus.* ii. 9. 2, repr. in *Dod.* 251. 3, *Lob. obs.* 292. 4, ic. i.

541. 2, *Ger. em.* 727. 2, and abridged in *H. ox.* vii. 26. row

1. f. 3, and *Pet.* 22. 7, is *C. muricata*.)

Root-leaves winged, on long leaf-stalks, with a winged mid-rib; wings egg-shaped, toothed, frequently with wing-cleft appendages at the base, the terminating one very large, confluent with the next pair; *stem-leaves* with winged clefts; segments spear-shaped, mostly entire. *Flowers* single, terminating. *Empalement* bellying; scales closely tiled, in several rows, egg-shaped, green, nearly smooth,

smooth, fringed, tipped and edged with black. *Florets* tubular; those of the circumference without chives or pointals, reddish purple, scored; segments 4, sometimes 5. *Tips* whitish. *Shaft* pale below, purplish upwards, with a downy ring beneath the summit. *Summit* cloven. *Seeds* oval, brown, compressed, shining; viewed with a glass slightly hairy. *Feather* yellowish, bristly, as long as the seed. Mr. Woodward.—*Stem* nearly cylindrical, scored. *Leaves* roughish, and a little hairy. *Empalement* globular; scales black, green at the base, fringed with light brown hair. *Florets of the circumference* without either shaft or summit; those of the centre marked on the outside with 5 dark purple lines, the tube and distended border filled with a honey-like juice. *Threads* a little woolly. *Tips* shining, dark purple. *Summit* cloven. *Fruit-stalks* long, naked. *Blossoms* purple, sometimes white. WITH.

Great Knap-weed.

Borders of corn fields, and corn fields.

P. July.

Horses, Sheep, Goats, and Swine eat it. Cows refuse it.

** *Calcitrapæ.* *Empalements with compound thorns.*

star CENTAURE'A *Calcitra'pa.* *Empalements* almost doubly thorned, fitting. *Leaves* with winged clefts, strap-shaped, toothed. *Stem* hairy.—

Ger. 1003. 1.—*Clus.* ii. 7. 3, repr. in *Dod.* 733, *Lob. obs.* 482. 2; *ic.* ii. 11. 2, *Ger. em.* 1166. 1, and cop. in *J. B.* iii. a. 89, and rudely in *Park.* 988. 1, and abridged in *Pet.* 21. 11.—*Ger.* 1003. 2.—*Lonic.* i. 72. 2.

Stem proliferous. *Empal.* thorns white. *Blossoms* purple, not yellow, sometimes white. LINN.

Star Thistle.

Barren meadows and road sides. [Yarmouth Dunes, near the sea, with a white blossom, frequent. Mr. Woodward.—In Cambridgeshire. ST.] A. Aug.

St. Barnaby's CENTAURE'A *solstitia'lis.* *Empalements* doubly thorned, solitary. *Leaves* of the branches running down, without thorns, spear-shaped; root-leaves lyre-wing-cleft.—

Dod. 734. 1, repr. in *Ger. em.* 1166. 2, and cop. in *Park.* 989. 4, and imitated in *Pet.* 21. 12.—*Col. phyt.* 31.—*Lob. adv.* 372, repr. in *ic.* ii. 12. 1.—(*Ger.* 1003. 2, is, as C. B. makes it, *C. Calcitrapa.*)

Root fibrous. *Stem* 2 feet high, branched, open. *Root-leaves* lyre-shaped, tapering; lateral segments spear-shaped, toothed, the terminating one winged, triangular, halberd-shaped; *stem* and *branch-leaves*

branch-leaves very entire, short, waved, sprinkled with a white cob-web-like wool. *Flowers* terminating, solitary. *Fruit-stalks* very long, leafy. *Empalements* egg-shaped, without any leaf at the base; scales white, those which surround the base longest, only toothed at the base, with hand-shaped short and nearly equal thorns; the rest with awl-shaped thorns as long as the empale-ment, and armed on each side with lesser thorns. *Blossoms* yellow.

LINN.

St. Barnaby's Thistle.

Corn fields and hedges. Not far from Cirencester, Gloucestershire, and Northfleet, Kent.

A. July. Aug.

Order IV.

POLYGAMIA NECESSARIA; NECESSARY POINTALS.

1079. FILA'GO. Cat's-foot.

EMPAL. *common*, composed of chaffy scales; tiled; containing in the centre many florets with chives and pointals, and amongst the lower scales *solitary Florets* with only pointals.

BLOSS. *Individuals with Chives and Pointals*, funnel-shaped. Border with 4 clefts; upright.

Individuals with only Pointals, not very conspicuous; thread-shaped; very slender; mouth cloven.

CHIVES. *Threads* 4; hair-like; small. *Tips* forming a hollow cylinder, with 4 teeth at the top.

POINT. *Seed-bud*, where chives and pointals, hardly perceptible. *Shaft* simple. *Summit* sharp; cloven.

Seed-bud, where only pointals, inversely egg-shaped; rather large; depressed. *Shaft* thread-shaped. *Summit* cloven; sharp.

S. VESS. none.

SEEDS in those florets that have both chives and pointals, none. In the florets with only pointals, inversely egg-shaped; compressed; smooth; small. *Feather* none.

RECEPT. The centre naked; but at the sides the chaffy scales of the empalement separate the florets.

Ess.

ESS. CHAR. *Receptacle naked. Feather none. Empalement tiled. Florets with only Pointals placed between the scales of the empalement.*

Cud-weed FILA'GO *german'ica*. Panicle forked. Flowers rounded, in the divisions of the branches, hairy. Leaves pointed.—

Gnaphalium germanicum, which see.

leaf FILA'GO *monta'na*. Stem nearly forked, upright. Flowers conical, terminating, and in the divisions of the branches.—

Gnaphalium montanum, which see.

rafs-leaved FILA'GO *gal'lica*. Stem forked, upright. Flowers awl-shaped, in the divisions of the branches. Leaves thread-shaped.—

Gnaphalium gallicum, which see.

Order VI.

MONOGAMIA; FLOWERS SIMPLE.

1090. JASIO'NE. Sheep's-bit.

EMPAL. *Common Cup* of many leaves; permanent; alternate; the inner narrower; inclosing several flowers upon very short fruit-stalks.

Proper Cup with 5 clefts; superior; permanent.

BLOSS. *Individuals* with 5 petals. *Petals* spear-shaped; upright; connected at the base.

CHIVES. *Threads* 5; awl-shaped; short. *Tips* 5; oblong; connected at the base.

POINT. *Seed-bud* beneath; roundish. *Shaft* thread-shaped; as long as the blossom. *Summit* cloven.

S. VESS. *Capsule* roundish; with 5 angles and 2 cells; crowned by the *proper Cup*.

SEEDS many; somewhat egg-shaped.

ESS. CHAR. *Common Empalement* of 10 leaves. *Blossom* regular, of 5 petals. *Capsule* beneath, of 2 cells.

OBS.

Obs. The central florets frequently barren, and the summit sub-shaped and undivided.

JASIONE montana.—

Scabious

Curt. iv. 41.—*Fl. dan.* 319, but has too much the habit of *Chrysocome*.

—*H. ox.* v. 5. 48.—*Pet* 5. 2.—*Dod.* 122. 2, repr. in *Lob. obs.*

291. 3, ic. i. 536. 2, *Ger. em.* 723. 12.

Leaves obscurely ferrated. LINN. *hort. cliff.*—*Blossoms* sometimes white. LINN.—*Leaves* sometimes ferrated. HALL.—*Leaves* sometimes, though seldom, with here and there a small tooth. *Stems* many, upright, or trailing, a foot or more high, angular, scored, hairy, often tinged with purple, cloathed with leaves for something more than one third of their height, above naked. *Branches* several, from amongst the upper leaves, alternate, much shorter and slenderer than the stem. *Leaves* strap, or strap-spear-shaped, pointing, waved at the edge, hairy, pointing upwards. *Flowers* solitary, terminating. *Empal.* outer scales oval-spear-shaped, blunt, with 2 or 3 teeth on each edge, hairy towards the base; inner spear-shaped, toothed. *Proper Cup*, segments bristle-shaped. MR. FLOODWARD.—*Fruit-stalks* naked. *Blossoms* blue.

Hairy Sheep's Scabious.

Only in very dry parched situations. LINN. ST.—Sandy and barren fallows and pasture. RAY.—Meadows and heaths. HUDS.

A. June, July.

Bees are remarkably fond of the flowers. LINN.

1091. LOBE'LIA. Cardinal-flower.

EMPAL. *Cup* 1 leaf; with 5 teeth; very small; embracing the seed-bud; shrivelling. *Teeth* nearly equal; the 2 upper ones a little raised.

BLOSS. *Petal* 1; rather gaping. *Tube* cylindrical; longer than the cup; above divided lengthways. *Border* with 5 divisions. *Segments* spear-shaped; the 2 upper ones smaller; more reflected; more deeply divided; forming the upper lip. The 3 lower ones generally larger, and more expanding.

CHIVES. *Threads* 5; awl-shaped; as long as the tube of the blossom. *Tips* connected so as to form an oblong cylinder, opening at the base in 5 different directions.

POINT. *Seed-bud* beneath; tapering to a point. *Shaft* cylindrical; as long as the chives. *Summit* blunt; rough with hair.

S. VESS. *Capsule* egg-shaped; with 2 cells; opening at the top; encompassed by the cup.

SEEDS many; very small.

ESS. CHAR. *Empalement* with 5 clefts. *Blossoms* irregular, of 1 petal. *Capsule* beneath; cells 2 or 3.

* *Leaves* very entire.

water LOBE'LIA *Dortman'na*. *Leaves* strap-shaped, very entire, containing 2 cells. *Stem* almost naked.—

Fl. dan. 39.—*Lightf.* 21, at p. 505.—*Chuf. cur.* 40, cop. in *Park.* 1250, and *Pet.* 67. 7.

Whole plant, even the leaves beneath the water, milky. *Leaves* depressed, tubular, and remarkable for having a double cavity throughout their whole length. *Blossoms* bluish white. LINN.—*Root* fibrous; fibres numerous, hair-like, whitish. *Stem* upright, cylindrical, hollow, smooth, 12 to 18 inches high, naked, except 3 or 4 oval fitting scales, about a quarter of an inch long. *Leaves* in a circle at the bottom of the water, numerous, about 2 inches long, bowed back at the end with an elegant curve, smooth, green, composed of 2 hollow parallel tubes. *Flowers* as many as 9, in a loose bunch, rising above the water, from one half to one inch asunder. *Fruit-stalks* slender, about half an inch long; from the bosom of a flower-scale. *Flower-scales* similar to the scales on the stem. *Empalement* divided into 5 strap-shaped segments, from one
and

and a half to two inches long. *Blossoms* about 8 lines long; *upper lip* upright; the *lower*, segments oval, bent back, the middlemost largest and longest. *Capsule* elliptical, surrounded with the *empal.* forming a ring a little beneath the summit, and terminated by the shaft with its club-shaped hairy summit. Mr. WOODWARD.

Water Gladiole.—Lakes in mountainous countries, as those of Wales, Westmoreland, Cumberland, and Scotland. [Coniston Water, Winander-meire. Mr. WOODWARD.] P. July, Aug.

** *Stem upright. Leaves cut.*

LOBELIA *u'rens*. Stem nearly upright. Lower-leaves roundish, scolloped; the upper spear-shaped, serrated. Flowers in bunches.— *biting*

*Bocc. rar. 11. 3, cop. in H. ox. v. 5. 56.**

Stem quite straight, simple, a foot high, rather bare, the corners rough. *Root-leaves* elliptical, smooth, bluntish, somewhat toothed; *stem-leaves* far asunder, 8, sitting, as it were glued to at the base, sharply serrated, smooth, distant. *Bunch* terminating, quite straight. *Flowers* upright, distant. *Empalement* with 5 clefts, rough; segments awl-shaped, upright. *Blossoms* blue, rough, the palate with 2 pale blotches; segments of the lower lip spear-shaped, hanging down. LINN.—Whole plant milky, of a warm taste, and if chewed excites a pungent sense of burning in the tongue, BOCON.—especially the root, MORIS. II. 467. n. 56, not 407, as in the Fl. angl. where it is called *sinking Lobelia*, probably a misprint for *singing*, a quality, however, it does not appear to possess.—Stem nearly upright, somewhat curved, 12 to 18 inches high. *Leaves* smooth; the lower blunt, 2 inches long, 6 to 8 lines broad, irregularly and slightly toothed, on leaf-stalks; those above sitting; the upper half embracing and closely pressed to the stem at the base with frequently a bundle of small leaves in the bosom, like the rudiments of branches. *Bunch* long. *Flowers* to 20 and upwards; the lower distant, the upper rather crowded. *Fruit-stalks* with 1 flower, short, from the bosom of the floral-leaves. *Floral-leaves*, the lower spear-shaped, the upper awl-shaped. *Empalement* with 5 divisions; segments awl-shaped, upright, 3 lines long. *Blossoms* about half an inch long, rough, bright blue; *upper lip*, segments awl-shaped, upright; the *lower*, segments spear-shaped, bent back, the middle one longest. *Chives* longer than the tube of the

* Stem too leafy, and leaves too spear-shaped, and sitting, not half embracing the stem. Mr. WOODWARD.

bloffom. *Tips* deep blue, with white hairy edges. *Summit* club-shaped, hairy, inclofed by the tips. From a fpecimen given me by Mr. Newberry. Mr. WOODWARD.

Mountainous meadows. Shute Common, between Axminster and Honifton, Devonshire. Mr. NEWBERRY.

1092. VIOLA. Violet.

EMPAL. *Cup* fhort; permanent; *leaves* egg-oblong; rather fsharp at the end; blunt below; fixed above the bafe; equal; but variously difpofed; 2 fupport the upper petal; 2 the 2 lateral petals; and 1 fupports the 2 lower petals.

BLOSS. *Petals* 5; irregular, unequal; the *Upper* ftraight; facing downwards; broader and blunter than the ref; notched at the end; terminating at the bafe in a blunt horn-like *Honey-cup*, projecting between the leaves of the cup.

Lateral Petals 2; oppofite; blunt; ftraight.

Lower Petals 2; larger; reflected upwards.

CHIVES. *Threads* 5; very fmall; the 2 near the uppermoft petal furnifhed with little appendages which enter the honey-cup. *Tips* generally united; blunt; with membranes at the end.

POINT. *Seed-bud* roundifh. *Shaft*, thread-shaped; extending beyond the tips. *Summit* oblique.

S. VESS. *Capsule* egg-shaped; 3-edged; blunt; with 1 cell and 3 valves.

SEEDS many; egg-shaped; furnifhed with appendages, fixed to the valves. *Receptacle* narrow; running like a line along each valve.

ESS. CHAR. *Empal. leaves* 5. *Bloffom* of 5 petals; irregular; horned behind. *Capsule* above; valves 3; cell 1.

OBS. In fome fpecies the *summit* is a fimple reflected hook; in others a little concave knob, perforated at the end.

* Without ftems.

hairy VIOLA *hir'ta*. Without a ftem. Leaves heart-shaped, rough with ftrong hair. LINN.—Leaves and leaf-ftalks rough with hair. Floral-leaves below the middle of the fruit-ftalk. CURT.

Walc.—Curt. i. 10.—Fl. dan. 618.—H. ox. v. 35: row 1. f. 4,
 imitated in Pet. 37. 7.*—Trag. 558.

Root thickish, upright, rising up, knotty with the scars from old leaves. Leaves somewhat oblong, hairy underneath. Leaf-stalks hairy underneath. Fruit-stalks above the floral-leaves, channelled along the back. The petal which has a horn, nicked. LINN.—Root throwing out young shoots, but which do not creep. Leaves somewhat longer, and not so perfectly heart-shaped as those of *V. odorata*. Blossoms paler blue than those of *V. odorata*, scentless. After the first flowers are withered, the plant continues, for a month or more, to throw out others entirely destitute of petals, or with only the rudiments of them, which never appear beyond the empalement, but with all the other parts of fructification perfect, and producing as the first crop perfect seed. CURT.—Leaves oblong-heart-shaped, scolloped, woolly; the ribs of the lower surface hairy. Leaf-stalks long, hairy underneath. Fruit-stalks long, with a pair of spear-shaped floral-leaves below the middle. Empal. leaves oval, blunt. Petals, the lateral ones bearded towards the base. Tips slightly attached to each other. Summit a hook at right angles to the pointal. Besides the above flowers on long fruit-stalks with petals, other afterwards come out amongst the leaves, by which they are hid, the fruit-stalks being short and declining. Capsule nearly spherical, with 3 imperfect angles, terminated by the pointal. Mr. WOODWARD.

Shady places and hedges in a calcareous soil. P. Mar. Apr.
 Horses, Cows, Goats, and Sheep eat it.

V I O L A *palustris*. Without a stem. Leaves kidney-shaped.—

Curt. iii. 36.—Fl. dan. 73.—H. ox. v. 35. row 2. f. 1, cop. in
 Pet. 37. 5, and Allion 2. 2, according to Haller.

Fruit-stalks cylindrical, or only a little flattened on one side. The upper petal marked with black lines extended quite to the top. LINN.—Produces ripe seeds without perfect blossoms. CURT.—Leaves obtusely scolloped, smooth, thin, veined, pale green above, often purplish underneath. Leaf-stalks long. Fruit-stalks longer than the leaf-stalks. Floral-leaves spear-shaped, a pair beneath the flower. Empalement smooth; leaves bluntly spear-shaped. Blossoms pale purple, with dark purple veins; the smallest of our species. Shaft crooked at the base, thickening upwards. Summit blunt, and somewhat hooked. Capsule oval, with 3 imperfect angles. Mr.

* Brunsf. 137. 3. Mr. WOODWARD.

WOODWARD.—*Root*, or rather *stem*, creeping, terminated by the next year's bud. *Leaf-scales* egg-shaped, finely ferrated, opposite, pressed to, reddish. *Leaves* sometimes heart-shaped, quite smooth, slightly scolloped. *Fruit-stalks* solitary, cylindrical, with 4 obscure angles, gradually thickening upwards, somewhat zigzag, longer than the leaves. *Floral-leaves* awl-shaped, 2, nearly opposite, with an upright tooth at the base, pressed to. ST.—*Empalement* skinny, and white at the edge. *Petals*, the lower of a uniform colour; the lateral ones with 1 strong, and 1 faint purple line, and a cluster of short stiff bristles near the base; the upper with about 11 purple branched streaks. *Tips*, the membranes orange-coloured. WITH.

Moist meadows, peaty and mossy bogs. In the north, frequent. [Bogs on Birmingham Heath. WITH.] P. March, April. Cows eat it. Sheep are not fond of it.

β HUDS. *Red striated Violet of Yorkshire*. PARK.—Probably not different from α. RICHARDSON in R. *syn.*

sweet VI'OLA *odora'ta*. Without a stem. Leaves heart-shaped. Suckers creeping. LINN.—*Floral-leaves* above the middle of the fruit-stalk. CURT.*

Curt. i. 9.—Ludw. 175.—Walc.—Fl. dan. 309.—Renealm. 141. 1.—Blackw. 55.—Sheldr. 17.—Dod. 156. 1, repr. in Ger. em. 850. 2.—Pet. 37. 3.—Ger. 699. 1 and 2.—Lob. ic. i. 608. 2, repr. in Ger. em. 850. 1, and cop. in Pet. 37. 1.—Matth. 1180.—Lonic. i. 180. 1.—Trag. 558. 1 and 2.—Fuchf. 311, cop. in J. B. iii. 542.—(Park. par. 285. 1, and Garf. 622, seem rather to be *V. canina*.)

Root creeping, thread-like. *Leaves* rounded, nearly naked, downy underneath. *Fruit-stalks* from the root, not channelled above the floral-leaves. The horned *petal* nicked. LINN.—*Leaf-stalks* nearly smooth. *Fruit-stalks* channelled on the upper side above the floral-leaves. *Flowers* both with and without petals, all producing perfect seed. CURT.—*Leaves* more deeply scolloped than those of *V. hirta*. *Floral-leaves* spear-shaped, in pairs. *Empalement* smooth; leaves oval. *Blossom* rich blue-purple, smelling very sweet. *Capsule* like that of *V. hirta*. Mr. WOODW.—*Leaves* kidney-heart-shaped, slightly hairy either on one or both sides. *Blossom* with sometimes a double honey-cup. *Threads*, the appendages of the 2 lower, strap-shaped,

* This observation to be made when the flowers are fully expanded, as the part of the fruit-stalk above the floral-leaves grows considerably longer before the blossoms are faded; CURT.—for which reason depending upon it as a mark of specific distinction may mislead. Mr. WOODWARD. ST.

strap-shaped, coming out from near the base at right angles. FLOWERS OF THE SECOND CROP. *Petals* in all that I examined; the 2 upper oblong, upright, shorter than the empalement; the 2 lateral ones oblong, somewhat longer than the 2 upper, but still shorter than the empalement; the *lowermost* as long as the empalement, broader than the 2 upper, lopped, imperfectly nicked. *Honey-cup* as in the first crop. *Chives* elevated along with the seed-bud as it increases in size. The observations made in October, 1783, and earlier in the year 1784. ST.—*Chives*, 3 of them fixed to the 3 lower-leaves of the empalement; the other 2 to the seed-bud, and have each flattish green appendages. WITH.

Warm hedges and ditch banks, and in moist warm lanes; particularly in clay or marle. P. March, April.

The flowers and seeds are said to be mild laxatives. The powdered root, in doses from 40 to 80 grains, vomits and purges. The petals give the colour to the syrup of Violets, for which purpose they are cultivated in large quantity at Stratford-upon-Avon. This syrup is very useful in many chemical enquiries, to detect an acid or an alkali, the former changing the blue colour to a red, and the latter to a green. Slips of white paper, stained with the juice of the petals, and kept from the air and the light, answer the same purpose. WITH.—A Horse refused it. ST.

β Blossoms white. LINN.—All that I have observed about Birmingham have been of this colour. WITH.—*Lateral petals* without the hairs that grow on the inside of the claws in α. ST. WITH.

γ Blossoms double. LINN.

Pet. 37. 2.

δ Blossoms white, with the spur of the lower petal purple, and the lower edges of the 4 upper petals tinged on the outside with purplish blue. Observed them to be the same for two years. ST.

ε Blossoms faint flesh-colour. ST.

ζ Blossoms purplish red. All the above varieties about Worcester in red marle. ST.

** With stems.

V I O L A *canina*. Stem ascending as it attains its full growth. Leaves oblong-heart-shaped; LINN.—*the upper oblong-heart-shaped*. ST. *dog's*

Curt. ii. 18.—Walc.—Barr. 695.—Lob. ic. i. 609. 1, *cop. in Pet.* 37. 6.—Trag. 558. 3, *fruit-stalks still stemless*.—Dod. 156. 3, *repr. in Lob. ic. i. 609. 2, Ger. em. 851. 6; and cop. in H. ox. v. 7. 2, and Pet. 37. 4.*—Garf. 622.—Park. par. 285. 1.—J. B. iii. 544. 1, *not in flower*.—(Gmel. iv. 49. 1, *seems a different species. The spur is said to be yellow.*)

Stems cylindrical, flat on one side, smooth. *Leaves* smooth. *Leaf-scales* tooth-fringed. *Blossom* blue; spur white. LINN.—Differs from *V. odorata* as follows. *Leaf-scales* fringed with stiff hairs. *Empal.* leaves pointed. *Blossom* larger, scentless. CURT. ST.—*Leaves* truly heart-shaped. *Empal.* leaves spear-shaped, edged with a narrow membrane. *Blossom* paler blue, of an azure rather than a purplish blue, as coloured in *Fl. lond.* and spotted on the outside with very minute streaks of white. ST.—*Stems* lengthening as the summer advances, and in woods often 8 or 9 inches long, those from the crown of the root upright, the side ones declining, afterwards ascending, forming a very obtuse angle at each joint. *Leaf-scales* spear-shaped, fringed with stiff bristles. *Leaves*, the lower blunt, the upper heart-spear-shaped, scoloped, slightly hairy. *Fruit-stalks* longer than the leaves. *Floral-leaves* 2, awl-shaped, a small distance below the flower. *Empal.* leaves spear-shaped, pointed. *Capful* oblong, with 3 angles. MR. WOODW.—*Leaves* rough above with short white bristly hairs. *Fruit-stalks* 4-cornered below the floral-leaves, but above cylindrical, with a groove on one side. *Petals*, the lateral ones marked with 3 deep purple branched lines, and at the claw a tuft of white bristly glands; the lower marked at the base with 5 deep purple lines, which about the middle of the petal become branched. *Tips* united by a fringe of little teeth along the edges; membranes yellowish brown. *Summit* set with a tuft of bristles resembling those at the claws of the petals, but shorter. *Capful* smooth. WITH.—*Bloss.* spur whitish. DILL. in *R. syn.* 364.—At the first opening of the flower it hath no stem, but one afterwards grows up, and fruit-stalks proceed from it.

Shady places, heaths, ditch banks. P. April—June.

Cows, Sheep, Swine and Goats eat it. Horses refuse it. LINN.—30 or 40 grains of the root in powder act as an emetic.

β Blossoms white. HUDS.

Hampsted Wood, on that side the Chestnut-walk where the two ways meet. *R. syn.* 364.

γ HUDS. Smaller in all respects. Spur of the blossom yellowish. DILL. in *R. syn.* MR. WOODWARD.

Ray 24. 1, at p. 478.

Stem very short. *Leaves* rougher and much smaller than those of α , the largest not exceeding half an inch long, and one third broad. *Leaf-scales* not so much fringed. *Flower* seldom more than 1. I have carefully traced it through all its stages, up to the largest plants of *V. canina*. MR. WOODWARD.

Pastures about Mitcham. *R. syn.*—[Heaths, frequent. MR. WOODWARD.]

May.

δ alpina. Stem with mostly 3 flowers. Leaves heart-shaped, deeply serrated. HUDS. (Pet.

(Pet. 37. 6, is a copy of Lob. fig. of *V. canina*, ic. i. 609. 1.)

Does not appear to me to be distinct from *V. canina*. RICHARDSON in *R. syn.*

On the rock Clogwyn y Garnedh, above the lake Phynon las. LLWYD in *R. syn.*

*** Props with winged clefts. Summit pitcher-shaped.

VIOLA tricolor. Stem 3-cornered, spreading. *Pansy*
Leaves oblong, cut. Leaf-scales with winged clefts.
LINN.—Leaves toothed. Leaf-scales tooth-winged-cleft,
the uppermost segment oblong, mostly on a leaf-stalk.
HUDS.

α LINN. Blossoms white. ST.—Matth. 1133.—Ger. 704. 4,
and 703. 1.—Fuchf. 303, improved in J. B. iii. 546. 2.—Trag.
564.—Lob. ic. i. 611. 2, repr. in Ger. em. 854. 4, and cop. in
H. ox. v. 7. 10, and Pet. 37. 9.

Flowers much smaller than those of the garden *V. tricolor*, whitish or yellow, but not vivid or pleasing to the eye. RAY. ST.—Stems ascending, branched. Leaves elliptical, or spear-shaped, ferrated, or toothed. Leaf-scales, wings strap-shaped, short, 2 or 3 pair, or rather like teeth at the base, the terminating one much larger, elliptical, slightly toothed. Fruit-stalks from the bosom of the leaves, longer than the leaves, the lower expanding, and sometimes declining. Floral-leaves a pair, small, a short distance below the flower. Empal. leaves spear-shaped, pointed, the 3 upper shortest, longer than the upper petals, the 2 lower as long as the lower petal. Mr. WOODWARD.—Stems several, mostly branched near the root, simple above. Blossom a little shorter than the empalement; the 2 upper whitish; the 2 lateral ones whitish, with 2 or 3 faintish purple lines; the lowermost thrice as large as the rest, whitish, yellowish at the base, with 5 purplish brown lines; honey-cup whitish with a tinge of blue. ST.—Leaves in some plants egg-shaped, scolloped, and considerably hairy. Petals, the lateral ones woolly on the inside at the top of the claw, with 3 purple lines at the base; the lowermost with 5 or 7 dark purple streaks. WITH.

Viola bicolor arvensis, C. B. pin. 200. R. syn. 366, flore albo. C. B. pin. 200, flore candido et luteo. ib. and Tourn. inst. 421.—*V. tricolor* α and β LINN. fl. succ. 791. ST.

Corn fields, [gravel-pits, sides of paths, gardens and cultivated ground. ST.]

A. May—Sept.

β Blossoms blue; blue and yellow; blue and white; purplish blue; purplish blue and white. ST.

Pet. 37. 8, is the best representation of it, though a copy of Dod. 158.

1, which is the cultivated garden variety.—Barr. 757. 1, and 3.

Stem

Stem ascending, 2 of the angles channelled from the sides of the leaf-scales running down, very slightly downy below, smooth above, hollow. *Leaves* alternate, elliptical, and scolloped, in some plants spear-shaped and ferrated, the lower often roundish, downy. *Leaf-stalks* inserted into the leaf-scale. *Leaf-scales* in pairs, sitting, opposite, grown together at the base, two thirds of the length of the leaves; segments strap shaped, tapering to a point, very entire, the terminating one oblong, sparingly scolloped, or bluntly ferrated, always more or less so. *Fruit-stalks* 3-square, thrice as long as the leaves, the lowermost angle channelled from the floral-leaves running down. *Floral-leaves*, 2 towards the end of each fruit-stalk, pressed to, halberd-shaped; lobes with 2 teeth at the point. *Flowers* somewhat nodding. *Empal.* leaves fixed laterally to the receptacle, their bases loose and expanding backwards. *Petals* a little longer than the empalement; the 2 upper pale blue; the 2 lateral ones whitish, with bluish edges, and marked with 3 blue lines; the lowermost yellowish white, yellow at the base, bluish at the edges, and marked with 5 blue lines. *Summit* globular, yellowish green, woolly without, concave, perforated at the point on the lower side; the orifice round, somewhat lipped, the lower lip bent back, containing a glutinous liquor, but which is not sweet as that contained in honey-cups. *ST.*

Viola bicolor arvensis flore caeruleo et candido. C. B. pin. 200, *TOURN.* inst. 421.—*V. tricolor* γ LINN. fl. succ. 791. *ST.*

[Road sides about Wolfeley Bridge, Staffordshire, in a loose sandy gravel, and between Ivetsey Bank and Ketley, Shropshire, in red sand. Side of the canal near Leeds. About Stourbridge.—Its elegant blue flowers are a grateful ornament to the barren soil in which they grow. *ST.*]

γ Blossoms of more than 2 colours. *ST.*

Curt. i. 6.—*Fl. dan.* 623.—*Pet.* 37. 8, the 2 separate flowers.—(*Reinealm.* 141. 2.—*Blackw.* 44.—*Dod.* 153. 1, repr. in *Lob. obs.* 335. 1; *ic.* i. 611. 1, *Ger. em.* 854. 1; and cop. in *Park.* 756. 7.—*Lonic.* i. 181. 3, are the garden variety.)

Stem weak. *Leaf-scales* terminating at the end in a leaf-stalk. *Fruit-stalks* compressed. *Floral-leaves* 2 on each fruit-stalk, halberd-shaped, each of the lobes with 2 teeth. *Summit* globular, hollow and open. In no plant may the process of impregnation be so distinctly seen. LINN.—*Summit* fringed on the lower part, and the hairs of the fringe nearly in contact with the tips.

Pansies. *Heart's-ease.* *Three faces under a hood.* *Love in Idleness.* *Kiss at the garden gate.* *Call me to you.* *Herb Trinity.*

Corn fields and ditch banks.

A. May—Sept.
The

The dust appears angular in the microscope, but when wet with water it becomes globular, an alteration however which is not peculiar to this plant.—Cows and Goats eat it. Swine are not fond of it. Horses and Sheep refuse it. LINN.—Dr. Strack says that it infallibly cures the scabby complaints in young children, called *Crusta lactea*. He boils a handful of the fresh, or half a dram of the dried leaves, in $\frac{1}{2}$ a pint of milk, and gives this milk morning and evening, for some weeks. *Med. Journ.* II. p. 188.

VIOLA grandiflora. Stem 3-cornered, simple. *yellow* Leaves somewhat oblong. Leaf-scales with winged clefts. LINN.—Leaves somewhat heart-shaped, toothed. HUDS.—Root creeping. HUDS. *ed.* I. Mr. SAVILLE.—Leaf-scales very entire. ST.*

Pet. 37. 10.—*H. ox.* v. 7. 11.—(*Hall.* 17. 1, at i. p. 243, is *V. calcarata*.—*Barr.* 691, and 692, are very properly omitted by *Hudson*. They accord well with foreign specimens, but have a habit totally distinct from our plant.)

Stem tall, branched, leafy, with leaf-scales, in all respects that of *V. tricolor*, but the flower very large, yellow; the petals egg-shaped, as long as the leaves; and the spur as long again as the empalement, but shorter than the petals. The offspring of *V. tricolor*. LINN.—It seems to be specifically different from *V. tricolor*. RAY.—Stem upright, or ascending, 3-cornered, simple. Leaf-scales in pairs; segments very entire, strap or strap-spear-shaped, the

* *Stipulis integerrimis*.—Our plant agrees with the Linnæan character, but I do not believe it to be the *V. grandiflora* of Linnæus, which he describes as having a spur twice as long as the empalement. The synonyms of C. B. referred to by Linnæus, carry us to a figure and full description of Clus. i. 310. *Viola mont.* III. *five tricolor*, from which I shall extract the following. "Roots perennial. Stems several, very much branched. Leaves juicy, longer and thicker than those of *V. tricolor*. Flowers the largest I have seen in this kind of plants, of a very sweet scent. Petals of different colours." Add to this, that Linnæus also cites *Barr. ic.* 691. 692. I have specimens which well accord with these figures, but they are clearly different plants from ours. Barrelier's description corresponds with that of Clusius, adding, that "the 2 upper petals are larger and wider."—Hence I am persuaded, that our plant is distinct from the *V. grandiflora*, and that we must adopt the rejected name of the first edition of the *Fl. angl.* of *V. lutea*, distinguishing it by the following character: *Caule triquetro simplici, foliis inferioribus ovatis, stipulis integerrimis*.—I do not, however, assert, that the *V. grandiflora* is not a native. Mr. Lightfoot refers to *Barr.* 691. 692, and *Hall.* 17. 1, at i. 243, so that both species may possibly prove to be natives. ST.

the terminating one not much longer than the others, slightly hairy. *Leaves*, the lower egg-spear-shaped; the upper elliptical or spear-shaped, distantly ferrated or toothed, slightly hairy. *Fruit-stalks* usually solitary, apparently terminating; sometimes 1 or 2 more from the bosom of the upper leaves, upright, and nearly parallel to the uppermost. *Floral-leaves* small, in pairs, a small distance below the flower. *Empal.* leaves spear-shaped, unequal, much shorter than the petals. *Petals* yellow; the 2 upper oval, tapering into a narrow claw; the lateral ones oval, as broad, but shorter than the upper, with 3 purple veins near the base, and fringed, terminating in a bent claw; the lowermost very broad, slightly nicked, marked towards the base with branched purple veins, tapering downwards, and ending in a blunt horn longer than the empalement, but shorter than the petals. I suspect it is not distinct from *V. tricolor*, though it differs in the simple stem, the shape of the leaf-scales, and the comparative length of the petals and empalement. The leaves also differ in shape, but not so materially. Mr. Woodward.—*Stem* $1\frac{1}{2}$ to 5 or 6 inches high, or more, when cultivated near a foot, I suspect solitary, but I cannot speak with certainty. *Leaves*, the lower mostly egg-shaped, sometimes nearly heart-shaped, oblong, or spear-shaped, between ferrated and scolloped; towards the top gradually becoming more oblong and narrower, till they become quite spear-shaped, or sometimes only oblong. *Leaf-scales*, the terminating segment spatula-shaped, or oblong, sometimes spear-shaped, always, as Mr. Woodward observes, very entire, even in the most luxuriant cultivated specimens. *Fruit-stalks* 1 to 4, in some cultivated specimens to 5, from the bosom of the leaves, very long, often more than 4 times as long as the leaves with their leaf-stalks; in plants with only 1 flower sometimes rising to more than the height of the stem above the top of the latter. *Blossom* nearly about an inch in diameter, bright light yellow, the lowermost petal of a deeper shade, none of them, as far as I have observed, of any other colour; scentless; *petals* inversely egg-shaped, not lapping over each other, often as large as the leaves, the upper sometimes marked with a single blackish purple line; the *spur* just extending beyond the posterior points of the empalement. *St.*

(*Viola montana lutea grandiflora*. C. B. pin. 200, does not appear, from Clusius's description there referred to, to differ from his *V. mont. tricolor odoratissima* 199, except in the colour of the blossoms. It should seem therefore to be the true *V. grandiflora*. *St.*)

Yellow Pansies.

Mountainous pastures; in the North, and in Wales in a rotten peaty soil. Ray.—About Attamine Cliffs near Settle, Yorksh. Curt.

—[Hills

—[Hills above Dovedale, Derbyshire, and in the North. Mr. WOODWARD.—Chatsworth Park, Derbyshire. Mr. WHATELY.—In a corn field in the Moorlands of Staffordshire between Leek and Buxton. ST.] P. May—Sept.

1093. IMPA'TIENS. Touch-me-not.

EMPAL. *Cup*, leaves 2; very small; circular, but tapering towards a point; equal; at the sides of the blossom; coloured; deciduous.

BLOSS. *Petals* 5; gaping; unequal.

Upper circular; flat; upright; with 3 shallow segments; tapering to a point; forming the *Upper Lip*.

Lower Petals 2; bent back; large, broadest on the outer part; blunt; irregular; forming the *Lower Lip*.

Intermediate Petals 2; opposite; from the base of the upper petal.

Honey-cup 1 leaf like a hood, receiving the bottom of the flower; mouth oblique; rising outwards; the base ending in a horn.

CHIVES. *Threads* 5; very short; narrower towards the base; bent inwards. *Tips* 5; united; but separate at the base.

POINT. *Seed-bud* egg-shaped; tapering. *Shaft* none. *Summit* simple; shorter than the tips.

S. VESS. *Capsule*, cell 1; with 5 valves, which opening with a spring, roll up into a spiral.

SEEDS many; roundish; fixed to a pillar-like receptacle.

ESS. CHAR. *Empalment* of 2 leaves. *Blossom* of 5 petals; irregular; with a hood-like honey-cup. *Capsule* above; with 5 valves.

OBS. In some species the intermediate petals are wanting; in others the honey-cup has no horn. Capsule in some species long, in others egg-shaped.

IMPA'TIENS *Noli-tan'gere*. Fruit-stalks supporting *impatient* many flowers; solitary. Leaves egg-shaped. Stem swollen at the joints.—

Fl.

Fl. dan. 582.—*Riv. tetr.* 244, *Impatiens*.—*Dod.* 659. 2, repr. in *Ger. em.* 446, (erroneously printed 450.) 4, and cop. in *Park.* 296. 5.—*Trag.* 295, cop. in *Lonic.* i. 99. 4.—*Col. ecphr.* i. 150. 1.—*Barr.* 1197, serratures too sharp.—*Garf.* 414.—*Ger.* 361. 3.—*Lob. adv.* 135, repr. in *ic.* i. 318. 1.—*J. B.* ii. 908.

When the seeds are ripe, upon touching the capsule, they are thrown out with considerable force. In the day time the leaves are expanded; but at night they hang pendant. LINN.—Stem and Branches pale yellowish green, smooth, shining, somewhat transparent, succulent and brittle; the upper part of the stem zigzag, forming an obtuse angle opposite to each leaf. Branches sometimes opposite. Leaves, the lower oval, the uppermost elliptical, or spear-shaped, irregularly serrated, alternate. Fruit-stalks, some with and others without floral-leaves. Mr. WOODWARD.—Blossoms yellow; the lateral petals spotted with red; by cultivation they are changed to pale yellow or purplish.

Quick-in-hand. Touch-me-not.

Moist shady places and banks of rivulets. Banks of Winandermere near Ambleside, near Rydall Hall and other places in Westmoreland. [Between Ambleside and Rydall Hall, Westmoreland, plentifully. Dr. J. E. SMITH.—By the side of Coniston Lake, Lancashire, and near Ambleside. Mr. WOODW.] A. July, Aug.

The whole plant is considerably acrid.

Goats eat it. Horses, Cows, and Sheep refuse it.

The *Sphinx Elpenor* lives upon it.

Class XX.

GYNANDRIA.

CHIVES on the POINTAL.

THIS Class is distinguished by the CHIVES being placed upon the SHAFT, or upon the *Receptacle* lengthened out into the form of a SHAFT, supporting both the *Pointal* and the *Chives*, and entering into part of the pointal.

The first Order of this Class is natural, and its Genera are distinguished by the Honey-cup alone. The structure of the flowers is very singular.

SEED-BUD always below the blossom, twisted like a screw.
 PETALS 5; the 2 inner ones generally approaching so as to resemble a helmet. A *Honey-cup* forms the lower lip and occupies the place of the pointal, and of a 6th petal.

SHAFT fixed to the inner edge of the honey-cup, so as to be scarce distinguishable; as is likewise the *Summit*.

THREADS always 2; very short; supporting 2 Tips; more slender below; without any coat; divisible like the pulp of Citron. They are inclosed in little cells opening downwards, and fixed to the inner edge of the honey-cup.

CAPS. cell 1; with 3 valves; opening at the angles under the keel-shaped ribs.

SEEDS like saw-dust; very numerous; fixed to a narrow receptacle upon each valve.

The reader, in examining and comparing the characters of this Class, should always attend to the Pointal before the Chives, in order to attain a distinct idea of the situation of the latter.

The

The flowers of this Class have a very singular appearance, owing to the unusual disposition of their component parts. LINN.—CHIVES evidently 2; but each composed of a number of elastic *Fibres* united together; each *Fibre* supporting its own proper *Tip*. If you press down the bottom of the Chives with a needle or any other instrument, and draw another needle along the Chive, pressing it with some force, you may extend it to twice its former length; but no sooner do you remove the force applied, than the fibres contract with an elastic force, and the Chive reassumes its former shape. This you may repeat, and the effect will be constantly the same.

These fibres branch out into lesser ones, each supporting at its point an extremely minute *Tip*. These tips I have examined in the microscope, and found some of them roundish, and others nearly triangular. The *Dust* which these might be supposed to contain I was not able to discover. *Str. Bot. Arr. ed. i.*

The structure of the flowers of this Order is still involved in obscurity, and seems to have as just, and since the discoveries of Hedwig, perhaps a juster claim to the title of *Cryptogamia*, or *concealed impregnation*, than the Ferns or Mosses. Accurate and attentive observation may perhaps unfold to us new modes of operation in nature, taking place in the same orders of beings, and productive of the same ends, and yet effected by means totally different from what we had too hastily supposed to be universal.

I have never been able to discover any true *Dust* (*Pollen*) either in the *Orchideæ* or the genus *Asclepias*. The mode of generation in this latter genus, though so clearly of the same natural order with the *Apocynum*, &c. is as distinct from that of the rest of the *Contortæ*, as that of *Cryptogamia* from the other classes. I have been inclined to suspect, that in *Asclepias* and the *Orchideæ*; the *principle of arrangement*, as Mr. Hunter terms it, may be conveyed to the embryo seeds without the intervention of air. *Str.*—The *Seeds* of this tribe have never hitherto been known to vegetate, and were their barrenness established as a fact, it should seem to arise from their not being properly impregnated, the *Tips* in the *Orchis* tribe being different in their structure from those of plants in general; not containing, as far as I have been able to discover, any similar *Pollen* or impregnating *Dust*. But as I have myself seen
from

from 20 to 30 young plants of *Ophrys apifera*, growing within a foot of each other, I am inclined to believe that they must be propagated by seed as well as off-sets. From CURT. (ST.)

In my observations on the different species of this Order, I have sometimes used a different language from that of Linnæus, but to the investigating botanist it will, I trust, occasion no confusion, and prove merely explanatory of the ideas I have been occasionally led to entertain of the structure of the flowers of this truly singular natural Class.

The *Orchideæ* in the structure of the blossom seem to bear the same analogy to the *Ensatæ* (Flag tribe), that the *Papilionaceæ* (Butterfly-shaped flowers) do to the regular pentapetalous flowers. They resemble also the *Ensatæ* in the obscure structure of the summit, which in the *Orchideæ* forms as it were a part of the petal, while in the *Ensatæ* it exactly resembles one.

Order I.

MONANDRIA; I. CHIVE.

† *Ophrys*. ST.

Order II.

DIAANDRIA; II. CHIVES.

1094. OR'CHIS. *Honey-cup* like a little horn.
 1095. SATYR'IUM. *Honey-cup* shaped like a double purse.
 1096. O'PHRYS. *Honey-cup* somewhat keel-shaped.
 Vol. II. 3 R 1097. SERA'PIAS.

1097. SERA'PIAS. *Honey-cup* egg-shaped, bellying
on the under side.
1100. CYPRIPE'DIUM. *Honey-cup* distended and bladder-
shaped.

Order IV.

TETRANDRIA; IV. CHIVES.

† Ophrys Corallorhiza. (ST.)

Order V.

HEXANDRIA; VI. CHIVES.

1111. ARISTOLOCH'IA. *Pointals* 6. *Cup* o. *Blofs.* 1 petal
Capsule 6 cells.

Order VIII.

POLYANDRIA; MANY CHIVES.

1119. A'RUM. In a sheath. *Cup* o. *Blofs.* o. *Chive*
above the pointals.
1123. ZOSTE'RA. In a leaf: *Cup* o. *Blofs.* o. *Seed*
alternate, naked.

† Evonymus europæus.

Order I.

DIANDRIA; II. CHIVES.

1094. OR'CHIS.

EMPAL. *Sheaths scattered. Fruit-stalk simple.*

Cup none.

BLOSS. *Petals 5; outer ones 3; inner ones 2; approaching upwards so as to form a helmet.*

Honey-cup 1 leaf, fixed by the lower side to the receptacle between the division of the petals. Upper Lip upright; very short. Lower Lip large; expanding; broad. Tube standing behind, shaped like a horn; hanging a little down.

CHIVES. *Threads 2; very slender and very short; fixed on the pointal. Tips inversely egg-shaped; upright; covered by a fold of the upper lip of the honey-cup, forming 2 cells.*

POINT. *Seed-bud beneath; oblong; twisted. Shaft fixed to the upper lip of the honey-cup; very short. Summit compressed; blunt.*

S. VESS. *Capsule oblong; with 1 cell; 3 keels; 3 valves; opening in 3 places under the keels; connected at the base and at the end.*

SEEDS numerous; very small; like saw-dust.

ESS. CHAR. *Honey-cup horn-shaped, behind the flower.*

* *Bulbs of the root undivided.*

OR'CHIS *bifolia*. *Bulbs undivided. Lip of the butterfly honey-cup spear-shaped; very entire. Horn very long. Petals expanding.—*

Ludw 95.—Hall. 35. 2, at ii. p. 148.—Walc.—Vaill. 30. 7.—

Dod. 237. 2, repr. in Lob. obs. 88. 2, ic. i. 178. 1, Ger. em.

211. 2, and cop. in Park. 1351. 7, and imitated in Pet. 68. 11.—

Ger. 165. 9.—H. ox. xii. 12. 18.—J. B. ii. 771.—Matth.

880. 2.—Fl. dan. 235, the lip of the honey-cup oblong-egg-shaped, cop. in Blackw. 588.

Flower white, of a very sweet scent in the night. Petals, the outer expanding. Lip spear-shaped, very entire. Spur awl-shaped,

GYNANDRIA DIANDRIA.

LINN.—*Root* oblique, conical. *Stem* deeply and obliquely furrowed. *Root-leaves* 2, large, broad-spear-shaped, shining, ribbed. *Floral-leaves* spear-shaped, green, flat, longer than the seed-buds. *Flowers* 20, loosely disposed. *Horn* pointed. *Lip* simple, strap-shaped, green. *Shield of the helmet* triangular, flat, the lateral segments very narrow. *Seed-bud* shorter than the horn. RELHAN.—*Bulbs* egg-shaped, tapering to a point at the base. *Stem* 12 to 18 inches high, angular, smooth. *Root-leaves* usually 2, oval, blunt, tapering into leaf-stalks, pale green, silvery underneath, with numerous parallel ribs; *stem-leaves* 3 or 4, spear-shaped, fitting, the lowermost the longest. *Spike* long, loose, with many flowers. *Floral-leaves* spear-shaped, pointed, like the stem-leaves; much longer than the seed-bud. *Petals* white, with a tinge of green; the 3 *outer* large, the *middle one* heart-shaped, blunt, covering the hood, the *lateral ones* spear-shaped, longer and narrower, expanding, somewhat bent back, forming obtuse angles with the middle one; the 2 *inner* strap-spear-shaped, small, bowed in, their points nearly touching, though their bases distant; *upper lip* very open; *lower lip* strap-shaped, nearly as long as the seed-bud, somewhat convex above, concave underneath, green towards the end, whitish upwards; *horn* almost as long again as the seed-bud, curved, slender, whitish upwards, towards the end broadest, green and somewhat flattened. CHIVES bright yellow; their cases distant. *Tips* straw-coloured, elastic, as in almost all the Orchises. MR. WOODWARD.—*Bulbs* oblong, whitish, the new one solid, the old one nearly empty, both tapering into a cylindrical, fleshy, somewhat zigzag fibre; similar fibres at the crown of the bulbs. *Stem* upright; angles generally 8, unequal, the base surrounded with leafy scales. *Root-leaves* sometimes egg-spear-shaped, and spear-shaped, upright; lines numerous; *stem-leaves* open, mostly alternate, distant, half embracing the stem. *Spike* nearly cylindrical, thrice as short as the stem. *Flowers* open, scattered. *Floral-leaves* horizontal. *Empal.* of 1 leaf, salver-shaped; *tube* wreathed, inclosing the seed-bud; *border* white, with 3 divisions, the upper segment heart-shaped, upright, the 2 lateral ones spear-shaped, horizontal. *Blossom* of 4 petals, with 4 divisions; segments unequal, fleshy; the 3 *upper* approaching; the *uppermost* somewhat egg-shaped, blunt, concave, the sides bearing the tips; the *lateral ones* strap-shaped, shorter, approaching upwards; the *lowermost* strap-shaped, shorter than the seed-bud, hanging down, somewhat bent in, throwing out a honey-cup from its base. *Honey-cup* thread-shaped, somewhat angular, thicker towards the base, greenish, longer than the seed-bud, horizontal, bowed upwards, containing at the base a sweetish honey-like juice. *Chives* involved in the sides of the upper segment of

of the blossom. *Threads* thread-like below, yellow, elastic, above club-shaped, cloven, composed of elastic threads. *Tips* exceedingly minute, strap-shaped, possibly cylindrical, fitting, from the sides of the threads, yellowish. *Seed-bud* round, nearly upright, tapering each way, scored. *Summit* concave, glutinous. Possibly the real summit may be a strap-shaped portion of the inner side of the upper segment of the blossom. ST.—*Bulbs*, one nearly globular, the other pear-shaped. *Root-leaves* sometimes 3; *stem-leaves* much smaller. *Floral-leaves* as long as the seed-bud. *Blossom* of a scent somewhat resembling that of the Narcissus; *upper lip* spear-shaped. *Honey-cup*, *upper lip* consisting of 2 spear-shaped approaching petals; *horn* cylindrical. *Tips* greenish. *Summits* 2, very small, orange-coloured. WITH.

Thickets and woods. RAY. ST.

P. May.

γ LINN.—*Lob. obs.* 89.* 1, repr. in *ic.* i. 178. 2, *Ger. em.* 211. 1, and cop. in *Park.* 1350. 3, and imitated in *Ger.* 162. 1, *J. B.* ii. 772. 1, and *Pet.* 68. 12.—(*Clus.* i. 207, is a distinct species.)

Differs from α in being lower, about 9 inches high, *root-leaves* 3, and narrower; and in its flowering about a month later. *R. syn.*

Hermaphrodita secunda Cor. *Gemmæ*, five *Orchis sphecodes diphylla*. *LOB.* *ic.* i. 178. (ST.)

Meadows and pastures.

P. June. RAY. [Not uncommon. Mr. WOODWARD.]

OR'CHIS *pyramidalis*. Bulbs undivided. Lip of *pyramidal* the honey-cup with 2 horns; cloven into 3 segments; equal; very entire. Horn long. Petals somewhat spear-shaped.—

Ray 18, at p. 377.—*Hall.* 35. 1, at ii. p. 148.†—*Pet.* 68. 4.—

J. B. ii. 764. 1.—*Vaill.* 31. 38, a flower.—*Clus.* i. 269. 1, ‡ repr. in *Ger. em.* 210. 4, and cop. in *Park.* 1349. 4.

Stem a hand's breadth high, jointed. *Leaves* 5 or 6, spear-shaped, pointed, membranaceous. *Floral-leaves* spear-shaped, coloured, as long as the seed-bud. *Flowers* purple, and white have been observed by Mappi. *Petals* egg-spear-shaped, 3 approaching, the 2 lateral ones expanding, bent back. *Lip* broad, with 2 oblong longitudinal hunches at the base. LINN.—*Stem* one to one and a

† The spike so far advanced as to have no longer its pyramidal shape. Mr. WOODWARD.

‡ Representing it as it appears when going out of flower. DILL. in *R. syn.* ST.

half foot high, somewhat angular, nearly cloathed with leaves. *Flowers* to 80. *Spike* short, close, pyramidal. *Floral-leaves* somewhat longer than the seed-bud. *Horn* pointed, longer than the seed-bud. RELHAN.—*Bulbs* oval. *Stem* 8 to 15 inches high, angular. *Leaves* spear-shaped, much pointed, pale green, with numerous parallel veins irregularly reticulated with cross ones, the lower and middle sheathing the stem, the upper sitting. *Spike* conical, blunt. *Floral-leaves* membranaceous, spear-shaped, much pointed, purple, longer than the seed-bud. *Petals* oval-spear-shaped, the middlemost of the outer and the 2 inner approaching, the 2 lateral outer ones expanding. *Lip of the honey-cup*, segments short, nearly equal, not spotted; *spur* turned to the spike-stalk. MR. WOODWARD.—*Stem* not jointed, of a silky glossiness. *Leaves* strap-spear-shaped, somewhat keeled, with a silky glossiness, the uppermost somewhat coloured. *Flowers* whitish purple. *Floral-leaves* spear-awl-shaped, somewhat coloured, as long as the seed-bud. ST.

Late-flowering Orchis.

Meadows and pastures in a calcareous soil. P. June, July.

β ST.—*Flowers* white. LINN. RELHAN. MR. WOODWARD.
Chalk pit close. RELHAN.*

meadow

OR'CHIS Mo'rio. *Bulbs* undivided. *Lip of the honey-cup* with 4 clefts, finely scolloped. *Horn* blunt, ascending. *Petals* blunt, approaching, LINN.—rather, *lip of the honey-cup with 3 lobes, the middlemost nicked.* ST.

Curt. iii. 30.—Walc.—Dod. 236. 2, repr. in Lob. obs. 38. 1; ic. i. 176. 2, Ger. em. 208. 2, and cop. in Park. 1347. 4, and imitated in Ger. 158. 6.—Fuchs. 559, cop. in J. B. ii. 761. 3, and Lonic. i. 202. 1.—Hall. 33. 2, at ii. p. 144.—Fl. dan. 253.—Vaill. 31. 13 and 14.

* Mr. Hudson has inserted *O. coriophora*, supposing it to be the *Orchis barbata fatida minor flore albo*. R. syn. 376, but Ray does not refer to any of the names or figures cited by Linnæus as synonyms of his *O. coriophora*, and from the epithets *barbata fatida*, and its immediately following *O. barbata fatida*, which is *Satyrium hircinum* of Linnæus, it should seem to belong at least to that genus, if it be not a mere variety of that particular species. Ray mentions no place of growth, and Mr. Hudson says, "I have not yet found it." The following are good representations of *O. coriophora*. ST.

Hall. 34. 3, at ii. p. 145.—Vaill. 31. 30, 31, 32 flowers.—Lob. obs. 90. 2, repr. in ic. i. 177. 2, and Ger. em. 210. 3, and cop. in Park. 1349. 3.—Ger. 161.—(Fl. dan. 224, is *O. conopsea*.)

Flowers

Flowers purple, rather few. *Petals*, all blunt, marked with lines, approaching. *Lip* bent back, finely scolloped at the sides, with 3 clefts, the middlemost nicked. LINN.—*Flowers* sometimes flesh-coloured or white. RAY. RELHAN. Mr. WOODWARD.—*Lip of the honey-cup* sometimes flat, sometimes undivided and only slightly nicked, the *horn* sometimes hunched, cylindrical, and more or less compressed. RETZ.—*Leaves* sheathing the stem. *Floral-leaves* coloured, sheathing the seed-bud, as long as the seed-bud. *Flowers* 6 to 12, loosely disposed. *Horn* very blunt, shorter than the seed-bud. *Lip of the Honey-cup* very broad, the middle segment dotted, smaller than the side ones. *Petals* with green parallel lines. *Flowers* sometimes pale purple. RELHAN.—*Leaves* sea-green, shining, not spotted. *Lip of the honey-cup* with 3 lobes, nearly equal, the lateral ones bent back, and scored with purple veins, the middle one notched, dotted towards the base. Differs from *O. mascula* as follows. *Stem* lower. *Spike* of fewer flowers. *Bulbs* small, round, one fixed to the base of the stem, the other connected by a fibre of the thickness of a pack-thread and half an inch long. *Petals*, the 3 upper forming the hood, and covering the lower ones, always scored with 3 greenish veins. Mr. WOODWARD.—*Leaves*, the upper close to the stem. *Floral-leaves* coloured. *Blossom* dark purplish red. *Petals*, the 3 outer marked with 5 lines, the 2 lateral ones concave. *Honey-cup*, the upper lip formed of 2 concave approaching petals, each marked with 2 lines; *lower lip* large, broad, bent back at the sides, slightly cloven into 3 segments, the middlemost lopped; *horn* short, nearly horizontal. WITH.

Female Fool-stones.

Moistish meadows and pastures.

P. May, June.

Goats eat it. Horses refuse it.

OR'CHIS *mascula*. Bulbs undivided. Lip of the *early* honey-cup divided into 4 lobes, finely scolloped. Horn blunt. Petals on the back bent backwards.—

Curt. ii. 21.—Hall. 33. 1, at ii. p. 144.—Vaill. 31. 12 and 11 flowers.—Fl. dan. 457.—Sheldr. 16.—Dod. 236. 1, repr. in Lob. obs. 87. 3; ic. i. 176. 1, Ger. em. 208. 1, and cop. in Park. 1346. 1.—Walc.—Blackw. 53.—Fuchs. 555, imitated in J. B. ii. 763. 1.—Lonic. i. 201. 1.—Matth. 882, imitated in Ger. 158. 5.

Flowers purple. *Petals*, the outer rather pointed, bent back. Lip with 3 clefts, the middlemost segment cloven, and longer than the side ones. *Spur* somewhat nicked. Very closely allied to *O. morio*, but differing as follows. *Stem* as tall again. *Flowers* numerous. The 2 petals on the back bent backwards, and not all approaching

into a helmet. The middlemost lobe of the *lip* the smallest. LINN.—*Leaves* shining, with blackish, purple, rounded, scattered spots. *Flowers* in a loose spike. *Floral-leaves* coloured, sheathing, shorter than the seed-buds. *Horn* shorter than the seed-bud. RELHAN.—*Lip* of the *honey-cup* entire, or nicked, or with 4 lobes; *horn* conical or cylindrical. RETZ.—*Spike* of about 6 flowers, thinly set. *Petals* marked with green. MR. DICKENSON.—*Bulbs* oval, both fixed to the base of the stem. *Stem* cylindrical, smooth, 12 to 15 inches high. *Leaves* spear-shaped, alternate, sheathing the stem, the lower bright green and shining above, sea-green underneath, with longitudinal parallel veins, usually with large brown spots; the upper closely sheathing the stem, pale green. *Floral-leaves* spear-shaped, membranaceous, pale purple, longer than the seed-bud. *Flowers* of a darker or paler purple, rarely white. *Petals* spear-shaped, pointed, the 2 lateral ones upright, and bent back to back, the middle one expanding and lying over the 2 lower ones, which are closely approaching, and of a paler colour. *Lip* of the *honey-cup* dotted towards the base, broad, with 3 lobes, the side ones roundish-scolloped, the middle one notched at the end. *Horn* as long as the seed-bud, broadest and somewhat compressed at the end. *Cases* of the *Chives* close together, dark purple. *Tips* greenish. MR. WOODWARD.

Male Fool-stones.—Meadows and pastures.

P. May.

Mr. Moulton, in a letter to Dr. Percival, inserted in the *Phil. Transf.* vol. 59. p. 1, describes his method of making Salep. The best time to gather the roots, he observes, is when the seed is formed, and the stalk going to fall; for then the new bulb, of which Salep is made, is arrived at its full size. The new roots being separated from the stalk, are to be washed in water, and the outer thin skin taken off. They are then to be set on a tin plate, in an oven heated to the degree of a bread-oven. In six, eight, or ten minutes they will have acquired a transparency like horn, without being diminished in size. They are then to be removed into another room to dry and harden, which will be done in a few days: or they may be finished in a very slow heat in a few hours.—Salep thus prepared, may be sold for less than a shilling a pound, and affords a mild nutriment, which, in times of scarcity, in cases of Dysentery and Strangury, and on ship-board, may be extremely useful. See *Percival's Essays*, part ii. p. 37.—Mr. Moulton made his experiments upon the roots of this species only. The preceding species is undoubtedly equally proper for the purpose, and it is highly probable that every species of *Orchis* may be used indiscriminately. Salep has been hitherto imported from Turkey at a considerable price, but it is to be hoped, we shall no longer be supplied from foreign markets,

markets, with an article that our own country can supply us with in almost any quantity. If ever plantations of it are made, the plants must be propagated by roots, for the seeds seldom come to perfection. Dr. Percival observes, that he got some seeds to all appearance perfect, but yet they would not vegetate. *See observations on the Clafs.*

OR'CHIS *ustula'ta*. Bulbs undivided. Lip of the dwarf honey-cup with 4 clefts,* rough with dots. Horn blunt. Petals distinct.—

Hall. 28. 2, at ii. p. 140, the separate figures of the flowers good.

—Fl. dan. 103,† the little point between the lobes of the middle segment of the lip not represented.—Vail. 31. 35 and 36, flowers.—Clus. i. 268. 1, cop. Ger. em. 207, and cop. in Park.

1345.—J. B. ii. 765. 2.—H. ox. xii. 12. 20, segments of the lip too broad.

Spike whitish red, purplish at the end. Petals distinct, approaching. Lip with 3 clefts, the middle segment lengthened out with 2 lobes; dotted with rough dots. Spur short, bluntish. LINN.—Stem (not scapus) angular. Spike close. Flowers to 40. Floral-leaves as long as the feed-buds. Petals without purplish, within greenish white. Lip hanging down. Horns much shorter than the feed-bud. RELHAN.—Bulbs oval. Stem 4 to 6 inches high, almost covered by the upper leaves. Leaves 5 or 6, bluntly spear-shaped, bright green above, whitish green below, shining, with numerous longitudinal veins. Spike short. Floral-leaves spear-shaped, about two thirds of the length of the feed-bud, membranaceous, faint purple, the keel dark. Petals, the 3 outer oval-spear-shaped, taper-pointed, purple without, greenish white within, the 2 inner spear-shaped, narrow. Lip white, with purple or purplish spots, with 3 divisions, the 2 outer segments expanding, spear-shaped, entire, with 1 or 2 teeth, the middle one longer, widening at the end, with 2 short lobes and an intermediate point. Horn very short, slightly curved, half as long as the feed-bud. Chives very short. Tips pale yellow. Cases of the chives greenish white, close. MR. WOODWARD.

Dryish meadows and pastures. [Gogmagog Hills, Newmarket Heath, and Barneck Heath near Stamford. MR. WOODWARD.]

P. May, June.

* The lip in this respect alike in *O. militaris* and *ustulata*, and the middle segment may be described either as cloven at the end into 3, or cloven into 2, with a smaller segment between them. ST.

† As tall again as any plant I have ever seen. MR. WOODWARD.

man OR'CHIS *milita'ris*. Bulbs undivided. Lip of the honey-cup with 5 clefts, rough with dots. Horn blunt. Petals confluent.—

Hall. 28. 1, at ii. p. 140.—Ger. em. 205. 2, cop. in Park. 1344. 4.—Fuchf. 554, cop. in J. B. ii. 755.—Trag. 778.

Flowers in a spike, purplish flesh-coloured.* Petals growing together. Lip cloven into 3; the middle segment lengthened out, with rough dots. Spur short, bluntish. LINN.—Bulbs somewhat oval. Stem about a foot high, cylindrical, smooth. Leaves about 4, sheathing the stem, acutely spear-shaped, the lower expanding, 1 or 2 of the upper ones closely embracing the stem, bright green, with numerous parallel veins. Spike 1 to 2 inches long. Flowers numerous. Floral-leaves very short, membranaceous, oval, pointed, terminated with an awn. Petals greyish white, with purple lines, approaching; the 3 outer large and broad, oval-spear-shaped, pointed, the 2 inner awl-strap-shaped. Lip purplish or white, with purple dots, divided into 3 segments; the 2 outer near the base, strap-shaped, half as long as the middle one; the middlemost long and narrow, slightly cloven into 3 at the end, the outer segments broader, rounded, slightly serrated, the middle one appearing like a thorn. Horn half as long as the seed-bud. Tips yellow. Cases of the chives not united. Specimen from the Continent and believed to be variety γ LINN. but differs I apprehend very little from α . Mr. WOODWARD.

Meadows and pastures in a chalky soil. Cawsham Hills by the Thames sides not far from Reading, Berkshire, and near the old chalk-pit by the paper mill at Harefield. P. May.

β LINN. Lip of the honey-cup bearded, with 5 lobes, the lateral ones blunt, finely scolloped, the middle one very short, pointed. HUDS.

Hall. 31, at ii. p. 140.—Ray 19. 2, at p. 379. I have not seen it.

O. purpurea. HUDS. ed. I. CURT. cat. n. 131, who is still of opinion that it is a distinct species. ST.

Woods and thickets near Northfleet, Kent. P. May.

ϵ LINN.—Lower lobes of the lip longer and narrower. Mr. WOODWARD.

Vaill. 31. 25 and 26.—Col. ceph. i. 320. 2.

I have seen a native specimen. Mr. WOODWARD.

Orchis flore simiam referens. Bauh. pin. 82.—*O. Zoophora cercopithecum exprimens orchades*. Col. ceph. i. 319. Mr. WOODWARD.

* *Purpureo canescentes* mant. et syst. plant. but I apprehend Linnæus must have written *purpureo carnescentes*, as above translated. ST.

** *Bulbs hand-shaped.*

OR'CHIS *latifolia*. Bulbs somewhat hand-shaped, *broad-leaved* straight. Horn of the honey-cup conical. Lip with 3 lobes; the lateral ones bent back. Floral-leaves longer than the flowers.—

α LINN.—Middle segment of the lip of the honey-cup blunt, as narrow again as the side ones, but of the same length. ST.

Mill. *illustr.*—*Fl. dan.* 266.—*Vaill.* 31. 3, 5, 4.—*Hall.* 32. 2, at ii. 142.—*Dod.* 240. 1, *repr. in Lob. obs.* 90.* 3; *ic.* i. 188. 1, *Ger. em.* 220. 1, and *cop. in Park.* 1356. 1, *Ger.* 169. 1, and *J. B.* ii. 774. 1.—*Blackw.* 405.—*H. ox.* xii. 14. 2.—(*H. ox.* xii. 14. row 3. 1, is a different plant.)

Bulbs straight, not much straddling, divided into 2 or 3 fingers. *Leaves*, especially the lower, a little spotted. *Flowers* in a spike. *Petals*, the lateral ones bent back, those at the back expanding, with the hinder edges bent back. *Lip* folded to behind, serrated, with 3 obscure lobes. Differs from *O. maculata* as follows. *Floral-leaves* longer than the flowers. *Leaves* nearly without spots. *Stem* hollow.

LINN.—*Stem* furrowed. *Leaves* spear-shaped, 4 to 6, in some plants spotted, the lowermost always pointed, as well expressed in Haller's figure. *Floral-leaves* coloured, longer than the seed-buds.

Flowers purple, to 40. *Spike* close. *Horn* blunt, shorter than the seed-bud. *Lip* very broad, with deeper coloured lines; lateral segments finely scolloped, the middle one spear-shaped. RELHAN.

—*Bulbs* broad, flat, divided into a few fingers sometimes running out into long fibres striking downwards. Several short thick roots shoot out laterally above the bulbs. *Stem* about a foot high, smooth, angular towards the top. *Leaves* alternate, sheathing the stem to the spike, acutely spear-shaped, keeled, with parallel veins, pale green, rarely spotted, and then very obscurely so. *Floral-leaves* much longer than the flowers, resembling the uppermost leaves, spear-shaped, pointed, green, sometimes with a tinge of purple. *Flowers* purple, flesh-coloured, or white. *Spike* somewhat conical. *Petals* spear-shaped, the middlemost of the 3 upper and outer with the 2 inner approaching. *Lip*, the middle lobe the longest, narrow, somewhat pointed, marked with dots and lines forming a regular figure, somewhat corresponding with the form of the lip. Mr. WOODWARD.—*Bulbs* expanding, cloven into 2, each segment cloven and expanding. *Stem* 7 to 14 inches high, somewhat hollow. *Flowers* purple, the throat whitish, with purple dots. *Spike* oblong-spear-shaped, one to two and a half inches long. *Leaves* upright, smooth, with lines on the under side. *Floral-leaves* awl-spear-shaped, keeled, flat, gradually shorter upwards. ST.—*Blossom* flesh-coloured or white, with beautiful crimson streaks, but no spots.

WITH.

Male-

Male-handed Orchis.—Moist meadows and pastures, and marshy ground. P. May, June.

Cows eat it. Horses refuse it.

β LINN.—Middle segment of the lip of the honey-cup egg-shaped, pointed, as long again as the side ones. ST.

Vaill. 31. 2 and 1 flowers.—Walc.—Dod. 241, repr. in Lob. obs. 91.* 3; ic. i. 190. 1, Ger. em. 222. 3, and cop. in Park. 1358. 11, and Ger. 171. 3.—Lob. obs. 93. 1, repr. in ic. i. 191. 2, Ger. em. 226. 1, and cop. in Park. 1360. 16, and imitated in Ger. 174. 2.

Lip of the honey-cup, lateral segments blunt. These variations I have observed in different plants, but Vaillant informs us that they are sometimes found in the same plant. ST.

[In the same moist meadows with α, between Battenhall and Worcester. ST.]

Spotted OR'CHIS *maculata*. Bulbs hand-shaped, expanding. Horn of the honey-cup shorter than the seed-bud; lip flat. Petals on the back upright.—

Hall. 32. 1, at ii. p. 142.—Vaill. 31. 9 and 10, flowers.—Lonic. i. 203. 2.—Dod. 240. 2, repr. in Lob. obs. 90.* 4; ic. i. 188. 2, Ger. em. 220. 2, and cop. in Park. 1357. 3.—Frag. 781.—Ger. 169. 2.—J. B. ii. 775. 2.—Lob. obs. 91.* 1, repr. in ic. i. 189. 1, Ger. em. 222. 1.—H. ox. xii. 14. row 2. 5.

One of the *bulbs* floats in water and nourishes the stem, the other sinks in water and bears the bud for the next year. Stem solid. Leaves spotted. Floral-leaves not longer than the flowers. Flowers sometimes white. Petals, the 3 outer upright, the 2 inner approaching. Lip with 3 lobes, scolloped, the middle segment quite entire, very narrow. LINN.—Leaves rather hoary, with oblong, transverse, darkish spots. Spikes close, conical. Flowers to 40, pale purple, with deeper lines. Floral-leaves coloured, longer than the seed-buds. Horn blunt, as long as the seed-bud. Lip broad, the middle segment undivided, pointed, smaller. RELHAN.—Bulbs compressed; fingers much straddling. Stem 6 to 18 inches high, cylindrical below, angular above. Leaves underneath silvery grey, with parallel green veins, above pale green, often partially covered with the same silvery skin; spots reddish brown, numerous, mostly oval and transverse, sometimes irregular, the lower embracing the stem; the lowest short, broad and blunt; the next above considerably longer, bluntly spear-shaped, those above more pointed; the upper very narrow, sitting, the edges running down the stem, whence the angular appearance of the upper part of the stem in this and several other species. Flowers usually

usually pale purple, sometimes nearly white and without spots, when the leaves also are pale and without spots. *Floral-leaves* spear-shaped, pointed, much longer than the feed-bud, purplish if the upper part of the stem be so, green if that be green. *Petals* spear-shaped, the 3 outer expanding, sometimes spotted. *Lip* deeply cloven into 3, marked with purple spots and lines; the lateral segments angular, the middle one spear-shaped. *Horn* bluntish, shorter than the feed-bud. *Chives* very short. *Tips* green. *Cases of the chives* close together, dark purple. Differs from *O. latifolia* in the lowermost leaf being always very blunt, the lip being deeply cloven into 3, and in its flowering later. Mr. WOODW.—*Bulbs* cloven, each of the segments terminating in a thick fleshy fibre. *Stem* sometimes 2 feet high, nearly upright. *Leaves*, the lower spear-inversely egg-shaped. *Floral-leaves*, the lower longer than the flowers, the upper shorter. *Bloss. tube* involving the feed-bud, green; *segments* white or purplish, and marked with purple lines, those of the back with the edges bent back. *Lip* flat, in the plants with white flowers with sometimes 5 lobes, from the lateral lobes being lobed. *Palate* glutinous. Is not this the summit? *Tips* when viewed in the microscope roundish, angular. ST.—*Bulbs* generally cloven into 2. *Blossom* more or less white or flesh-coloured, with beautiful purple spots or streaks. *Honey-cup*, the mouth furrounded with a fine semi-circular purple line. WITH.

Palmata speciosiore thyrsis, folio maculato. R. fyn. 381. (ST.)

Female-handed Orchis.

Woods, rich meadows, when the spike is large and a hand's breadth long; also in barren pastures, when the spike is only half the size, and with fewer flowers. RAY. P. June.

Sheep eat it. Goats and Horses refuse it. Cows are not fond of it.

♂ Leaves not spotted.

Anchandenny Woods, Scotland. PARSONS in *fl. scot.* 518.

OR'CHIS *conopsea*. Bulbs hand-shaped. Horn *red-handed*† of the honey-cup bristle-shaped, longer than the feed-buds. Lip cloven into 3. Two of the petals very much expanding.—

Fl. dan. 224.—*Hall.* 29. 2, at ii. 147.—*Vaill.* 30. 8, and 8 flowers.—*Euchl.* 712, cop. in *J. B.* ii. 778. 1.—*Lob. obs.* 91,* 2, repr. in *ic.* i. 189. 2, *Ger. em.* 223. 2, and cop. in *Park.* 1358. 5, abridged in *H. ox.* xii. 14. 14, and imitated in *Ger.* 171. 2.

† Sweet-scented should be applied to *O. odoratissima*. ST.

Resembling

Resembling *O. pyramidalis*. *Petals*, the outer expanding. *Lip* finely scolloped; segments equal, the middlemost very entire. *Spur* very long, as in *O. pyramidalis*. LINN.—*Leaves* narrow. *Floral-leaves* longer than the seed-buds. *Flowers* purple, flesh-coloured, and sometimes white. RELHAN.—*Bulbs* much compressed. *Stem* one to one and a half foot high, smooth, firm, cylindrical below, angular above. *Leaves* spear-shaped, pointed; the lower sheathing the stem, long, bright green, shining, keeled, with a strong midrib, on each side of which is one strong rib, and 2 or 3 fainter veins; lower stem-leaves embracing the stem; the upper sitting, decreasing in size till they resemble the floral-leaves. *Floral-leaves* spear-shaped, tapering to a point, longer than the seed-bud, herbaceous. *Spike* long, loose. *Flowers* flesh-coloured, or pale purple, very sweet. *Petals*, the middlemost of the outer and the 2 inner ones closely approaching, their points bent inwards and covering the chives; the 2 outer spear-shaped, at right angles with the lip of the honey-cup. *Lip* short, broad; segments roundish, the middlemost rather broader and longer. *Spur* awl-shaped, slender, curved, semi-transparent, juicy, much longer than the seed-bud. *Chives* with 2 hunched fleshy prominencies at their base. *Tips* greenish. *Summit*, the opening between the chives very apparent. MR. WOODWARD.—*Leaves* long, strap-shaped, almost doubled together lengthways. *Blossom* when minutely examined with a frosty glittering appearance. *Upper lip of the honey-cup* cloven. *Horn* crooked. *Petals*, the 2 lateral ones greatly expanded. WITH.

Palmata rubella cum longis calcaribus rubellis. R. syn. 381. (Sr.)

Meadows and pastures. [In a morass near Leeds. MR. WOOD.]
P. June.

Goats and Cows eat it. Horses refuse it.

*** *Bulbs* bundled.

Bird's-nest OR'CHIS *abortiva*. Roots bundled, thread-shaped. Lip of the honey-cup egg-shaped; very entire. Stem without leaves.—

Hall. 36, at ii. p. 151.—(J. B. ii. 782. 2, from its cloven lip should rather seem to be *Ophrys Nidus avis*.)

Stem leafless, sheathed with scales. *Flowers* violet. LINN.—*Horn* conical, slightly curved, very much pointed. MR. WOODWARD.

Pseudoleimodorum, Clus. hist. 270, descr. The fig. is a re-impression of Lob. ic. i. 195. 1. (For "*Pseudo-leimodorum austriacum*, Clus. hist. i. p. 270," in the Mant. et Syst. plant, read *Limodorum Austriacum*, Clus. pan. and as above. Sr.)

Purple Bird's-nest.

Dryish meadows. Near Alton, Hampsh. R. syn. P. May, June.

1095. SATYR'IUM.

1095. SATYR'IUM. Satyrion.

EMPAL. *Sheaths* scattered. *Fruit-stalk* simple. *Cup* none.
 BLOSS. *Petals* 5; oblong egg-shaped; 3 on the outside;
 the inner approaching above in form of a helmet.

Honey-cup of 1 leaf; fixed by the lower side to the
 receptacle, between the division of the petals. *Upper*
Lip very short; upright. *Lower Lip* flat; pendant;
 with a bag like a double purse projecting behind.

CHIVES. *Threads* 2; very slender; very short; fixed on
 the pointal. *Tips* inversely egg-shaped; covered by
 a fold of the upper lip of the honey-cup forming 2
 cells.

POINT. *Seed-bud* beneath; oblong; twisted. *Shaft* very
 short; fixed to the upper lip of the honey-cup. *Sum-*
mit compressed; blunt.

S. VESS. *Capsule* oblong; with 1 cell; 3 keels; 3 valves;
 opening in 3 places under the keels; connected at
 the base and at the end.

SEEDS numerous; very small; like saw-dust.

ESS. CHAR. *Honey-cup* in form of a double purse behind the
flower.

SATYR'IUM *hircinum*. Bulbs undivided. Leaves *Lizard*
spear-shaped. Lip of the honey-cup cloven into 3, the
 middle segment strap-shaped, oblique; bitten off.—

Hall. 25, at ii. 136.—*Vaill*. 30. 6 flowers.—*Dod*. 237. 1, repr.
 in *Ger. em.* 210. 1, and cop. in *Park*. 1348. 1, and imitated in
Ger. 160. 1, and *H. ox.* xii. 12. 9.—*Lob. obs.* 90. 1, repr. in
ic. i. 177. 1, *Ger. em.* 210. 2, and cop. in *Park*. 1348. 2, and
J. B. ii. 756, and imitated in *Ger.* 160. 2.

Plant tall. *Flowers* whitish, smelling like a goat. *Lip*, the mid-
 dlemost segment very long, the lateral ones very short, awl-
 shaped, very entire. LINN.—The largest and tallest of our
Orchises. RAY.—*Flowers* greenish white, purple within.

Lizard-flower.—Chalky meadows and pastures. Several places
 in the neighbourhood of Dartford, Kent. RAY. P. June, July.

SATYR'IUM *viride*. Bulbs hand-shaped. Leaves *frog*
 oblong, blunt. Lip of the honey-cup strap-shaped.
 cloven into 3 segments; the middlemost indistinct.—

Hall.

Hall. 26. 2, at ii. p. 137.—Fl. dan. 77.—Ger. em. 224. 9, cop. in Park. 1358. 9.—(Vail. 31. 6, 7, and 8, is considered by Pollich. as a variety in which the flowers are larger and the floral-leaves longer.)

Flowers of a greenish pale hue. Petals approaching. Lip, the lateral segments narrower, the middlemost smaller. LINN.—Lip yellowish green, sometimes brownish purple, or foot-coloured. RAY.—Stem 6 inches high, angular, leafy. Leaves spear-shaped, alternate, embracing the stem, downy. Floral-leaves longer than the flowers. Petals, the 3 outer egg-shaped, the 2 inner oblong, narrower, all approaching. Lip long, the middle segment very small. MART.—Petals, the 2 inner spear-shaped. Spur very short. RELHAN.—Bulbs with few fingers. Stem about 6 inches high, cylindrical below, angular upwards. Leaves, the lower sheathing the stem, oval, broad, marked with parallel veins, and an irregular network of cross ones, green, smooth, but not shining. Stem-leaves spear-shaped, the upper sitting. Spike loose, with few flowers. Floral-leaves resembling the upper leaves, much longer than the flower. Petals, the 3 outer green, oval-spear-shaped, closely approaching, forming the hood, the 2 inner greenish yellow, awl-shaped, quite hid by the outer. Lip yellowish, often with a tinge of brown, particularly at the edge, widening downwards, with 3 hunched prominencies towards the base; segments at the end pointed, the middlemost very short. Spur blunt, slightly nicked. Chives very short. Tips pale yellow, elastic. MR. WOODW.—Root; bulbs cloven into 2 or 4, the fingers tapering into cylindrical fibres; 2 expanding, the old one at the base of the stem, the new one above, with a bud at the end; fibres from the base of the stem and crowning the point of the old bulb, cylindrical, thick, tapering at the end, brownish white, horizontal, twice as long as the bulbs. Stem 5 to 11 inches high, solid; angles unequal, sharp formed from the edges of the leaves and floral-leaves. Leaves with lines underneath, veins anastomosing. Spike spear-shaped, 1 to 3 inches long. Flowers green. Floral-leaves awl-spear-shaped keeled, expanding, somewhat bowed in, green, gradually shorter upwards. Empal. tube investing the seed-bud; border with 3 divisions; segments egg-shaped, nearly equal, with sharp longitudinal wrinkles, approaching upwards, before flowering glued together and involving all the parts of fructification, excepting the honey cup; the side ones more convex on the outside, bowed back side ways at the points, the middlemost rather smaller, more bent inwards. These which are clearly an extension of the skin investing the seed-bud, inclose as an empalement the other parts of fructification, and are of a texture similar to that of the floral-leaves. Blossom

of 3 petals, the 2 upper strap-spear-shaped, concave, upright, of a greenish whitish hue, as long as the empalement, inserted at the divisions at the base of the upper lip of the third petal. These are of a different texture from the empalement as above described, are situated within it, and exactly resemble the texture of petals. The third petal gaping, with 2 lips, surrounding the edge of the seed-bud; upper lip roundish, concave, reddish brown, as short again as the 2 upper petals, divided within into 2 cells, each containing 1 of the chives, composed of 4 valves, marked at the base with a fleshy tooth; lower lip oblong-strap-shaped, bent back, somewhat longer than the empalement, flat, of a yellowish greenish hue, the sides and end tinged with brownish purple, the edges bent in at the base, with a longitudinal ridge running along the middle, cloven into 3 at the end, the lateral segments strap-shaped, bluntish, the middlemost very short, projecting underneath at the base into a honey-cup. I consider this as a petal, from its similarity to that of the *Fumaria*, and the whole class of *Personatæ*, which it exactly resembles. Honey-cup roundish, slightly furrowed along the middle, concave, hanging down from the base of the lower lip of the blossom. In *Fumaria* and the *Personatæ*, the honey-cup, as here, is an expansion of the petal, containing a honey-like juice. Chives 2, club-shaped, upright, of a yellowish white hue, involved by the valves of the upper lip of the blossom, at the base of which they are inserted. Threads cylindrical, yellow, somewhat transparent, globular at the base, above becoming thicker, and composed of elastic hair-like fibres. Tips wedge-shaped or triangular, flat, finely scolloped at the edge, wrinkled, opaque, sitting, fixed to the side of the threads, to which they adhere, as long as the flower continues, unchanged on being moistened with water, not containing any visible dust. Shaft none. Summit blunt, concave, glutinous, its edge surrounded by the third petal. ST. Meadows and pastures. [June. ST.] July, Aug.

Goats eat it.

β fuscum. Lip of the honey-cup with equal segments. HUDS.
On Hellse-fellnap near Kendal. P. Aug. HUDS. ed. I.

SATYR'IUM *albhidum*. Bulbs bundled. Leaves *white* spear-shaped. Lip of the honey-cup cloven into 3; segments sharp; the middlemost blunt.—

Fl. dan. 115.—*Hall.* 26. 1, at ii. p. 137.—*Mich.* 26. A. B. C.
Lip, the middle segment blunter. LINN.—Spike thick set. Flowers numerous. Floral-leaves spear-shaped, rather longer than the seed-buds. Petals white, all approaching. Lip green. Spur about half as long as the seed-bud, blunt, and bowed back, but not
Vol. II. 3 S double,

double, as in the generic character. LIGHTF. Mr. WOODW.—Indeed, Haller seems fully justified in not separating these plants from the *Orchis*. Stem 9 to 15 inches high. Leaves, the lower oval, sheathing the stem. Spike long. Floral-leaves much pointed. Petals oval-spear-shaped. Lip short, the middle segment the longest. Mr. WOODWARD.

Moist meadows in Wales, and about Malham, Yorksh. *R. syn.* and Llanberys. Mr. DAVIES.—Dry mountainous pastures in Argyleshire and the Hebrides. LIGHTF. P. June, July.

creeping SATYRIUM *re'pens*. Bulbs fibrous. Root-leaves egg-shaped. Flowers all pointing one way.—

Fl. dan. 812.—*Lightf.* 22, at p. 520.—*Hall.* 22. 3, *Epipactis* at ii. p. 132.—*Gunn.* ii. 6. 1.—*Cam. hort.* 35, *cop. in Ger. em.* 227. 4, *Ger.* 175. 4, *Park.* 1355. 8, and *J. B.* ii. 770. 2.

Root creeping. Leaves on leaf-stalks, with a net-work of brown veins. Petals 3, downy, glued together. Lip spear-shaped, or egg-oblong. In place of a spur a boat-shaped keel. LINN.—Roots cylindrical, annular, branched, throwing out shoots. Stem a foot high, hairy, especially towards the top. Leaves near the base of the stem, with 5 to 7 ribs. Leaf-stalks broad, leafy. Flowers whitish or straw-coloured, 15 to 20, from one side of the fruit-stalk turning round and looking to the other. Floral-leaves spear-shaped, longer than the seed-bud, of the same colour with the flowers. Lip terminated behind in a hunched boat-shaped honey-cup, which makes it belong more properly to the genus *Serapias*. LIGHT-FOOT. Mr. WOODWARD.

Old mossy woods, but very rare. LIGHTFOOT.—Pastures and thickets. HUDS.—About Moy-hall near Inverness, and other places in Scotland. P. June—Aug.

1096. O'PHRYS. Twayblade.

EMPAL. *Sheaths* scattered. *Fruit-stalk* simple. *Cup* none.

BLOSS. *Petals* 5; oblong; approaching upwards; equal; 2 of them placed outwards.

Honey-cup longer than the petals; hanging down; behind only slightly keeled.

CHIVES. *Threads* 2; very short; fixed to the pointal.

Tips upright; covered by the inner edge of the honey-cup.

POINT. *Seed-bud* beneath; oblong; twisted. *Shaft* fixed to the inner edge of the honey-cup. *Summit* imperfect.

S. VESS. *Capsule* somewhat egg-shaped; 3-edged; blunt; scored; with 3 valves; and 1 cell; opening at the keeled angles.

SEEDS numerous; like saw-dust. *Receptacle* strap-shaped; growing to each valve of the seed-vessel.

ESS. CHAR. *Honey-cup* slightly keeled underneath.

* *Bulbs* branched.

O'PHRYS *Nidus avis*. *Bulbs* fibrous, bundled. *Bird's-nest* stem sheathed, but without leaves. Lip of the honey-cup cloven.—

Hall. 37. 2, at ii. p. 149.—Fl. dan. 181.—Trag. 785, cop. in

Dod. 553. 2.—Lob. ic. i. 195. 1, repr. in Clus. i. 270. 1, Ger.

em. 228, and cop. in Park. 1362, Orchis, &c.—H. ox. xii.

16. 18, and Pet. 70. 3.—(Ger. 176, is more like an *Orobanché*.)

Whole plant brown. *Stalk* clothed with sheathing leaf-scales.

Floral-leaves shorter than the seed-buds. RELHAN.—*Root* fixed laterally to the stem; fibres fleshy, in a thick bunch, more numerous

and intricate than those of *O. bifolia*. *Stem* 12 to 15 inches high,

thickest at the base, firm, continuing long after the seeds are shed,

without leaves. *Leaf-scales* dry, numerous, embracing the stem.

Spike cylindrical, 4 or 5 inches long, rather loose below, close

above. *Floral-leaves* shorter than the seed-bud, spear-shaped.

Petals closely approaching, oval. *Lip* long, at first strap-shaped,

but at the end cloven, the segments blunt, straddling. *Chives*

inserted into 2 cavities, in the upper lip of the honey-cup. *Tips*

yellow. *Capsules* on fruit-stalks, triangular, a prominent rib along

each angle and side, the interstices plain. This and the *Orchis*

abortiva are closely connected in habit with *Orobanché*, *Lathræa*, and

Monotropa. MR. WOODWARD.

Bird's-nest.—Woods and shady places, but rather rare. About Charlton, Maidstone, and Roehill, Kent; Aldburgh, Suffolk; near Ingleton, and in Offley Park. [Heydon, Norfolk. Mr. BRYANT.—Buckham Wood, Cumberland. Mr. WOODWARD.]

P. May, June.

coral-rooted O'PHRYS *Corallorhiza*. Bulbs branched, zigzag. Stem sheathed, without leaves. Lip of the honey-cup cloven into 3.—

Fl. dan. 451.—Gunn. ii. 6. 3.—Hall. 44, at ii. p. 159, in flower, and another in fruit.—Cusf. ii. 220. 2, repr. in Ger. em. 1585. 2, and cop. in Park. 1363. 5, Ger. 1387, and J. B. ii. 785. 1.—Lightf. 23, at p. 523, in fruit.—Rupp. jen. 2. 3, *Orobanche*, &c.

Chives 4, in each cell 2. Stalk with only scales which are not green, HALL.—but, in a specimen in my possession, the lower sheath terminates in a real spear-shaped leaf, upright, somewhat approaching, half an inch long, 2 lines broad, and above these 2 others which are shorter. Mr. WOODWARD.

Marthy or moist woods, very rare. On the South side of a hanging wood near the head of Little-Loch-Broom, Rosshire LIGHTFOOT.—In woods of fir in the North of Scotland. HUDS.

P. Aug. Sept

triple O'PHRYS *spiralis*. Bulbs incorporated, oblong. Stem somewhat leafy. Flowers placed spirally, but pointing one way. Lip of the honey-cup undivided, finely scalloped. LINN.—*Flowers frequently pointing several ways and seldom all pointing one way.* SR.

Curt. iv. 46.—Fl. dan. 387, equally good.—Dod. 239. 2, repr. in Lab. cuf. 89.th 2, ic i. 136. 1, and cop. in Park. 1354. 3.—Ciesf. 42.—(J. B. ii. 769. 3, not the plant.—Hall. 38, at ii. p. 151, seems to be variety 3 and the same with Gmel. i. 3. 1.)

Flowers white within. Petals, the 3 outer glued together. L. roundish, finely scalloped, the teeth fringe-like. LINN.—Bulb 1 to 3, varying from oblong and half an inch to cylindrical and one and an half inch long, rough, with a few fibres. Stem to 9 inches high, smooth below, downy above, from the side of the root. Root-leaves in a tuft, oval-spear-shaped, very entire, smooth, bright green; stem-leaves 3 or 4, spear-shaped, tapering to a point, embracing the stem. Spike 2 to 4 inches long. Floral leaves longer than the seed-bud, oval-spear-shaped, tapering to point. Flowers numerous, white. Petals, the 2 inner spear-shaped expanding. Lip narrow at the base, widening downwards, at the

er

end roundish and ferrated. Mr. WOODWARD.—*Root* consisting only of bulbs, without any fibres at the base of the stem in any of the specimens or figures which I have examined, except in that of variety γ , Mich. 26. D, which is possibly a distinct species. *Stem* slightly wreathed. *Leaves* strap-spear-shaped, sheathing the stem at the base. *Flowers* sitting, greenish white, distinct, somewhat nodding, disposed along a spiral line, sometimes most or even all pointing one way, but mostly 3 or 4 pointing one way, and as many next above them another. *Spike-stalk* wreathed, downy. *Floral-leaves* spear-shaped, concave, as long as the flowers, smooth within, downy without, green, with white edges, involving the seed-buds. *Petals* 5, spear-shaped, nearly equal, upright, approaching, greenish white, smooth within, downy without; the 3 upper glued together, and appearing as one, the middlemost the largest. *Honey-cup* oblong-egg-shaped, at the base somewhat heart-shaped, and marked with a blunt tooth on each side, nearly doubled to, and involving the parts of fructification, slightly keeled underneath, at the end bluntish and finely scolloped, somewhat fleshy, glossy, glutinous, green, with a whitish edge, and towards the point frosted. *Chive* 1, placed on the upper side of the shaft. *Thread* none, except a short tooth projecting from the inner edge of the shaft. *Tip* of 2 cells and 4 valves, egg-shaped, upright, growing to the inner edge of the posterior tooth of the shaft. *Dust?* compacted by means of exceedingly fine elastic fibres into an egg-shaped, yellowish-white elastic body, of 2 lobes, inserted in the points of the summit, and involved in the cells of the tips; lobes club-shaped, flattened, doubled together, pulpy, fixed by a very small, brown, spear-shaped, horny eye, to the point of the shaft. I call it *dust*, for want of a better name, and believing it to be analogous to *dust*, though not appearing to accord by any means in its structure. True *dust* is found adhering by minute fibres, and thrown out in a mass from the cases which contain it, as in *Kalmia latifolia*, *Rhododendron maximum*, not to mention some of the *Epilobiums*. Compare the structure of the tips, and in particular the horny eye, as also that of the parts of fructification at large, with that of *Asclepias arborescens*. *Shaft* somewhat club-shaped, hooked, projecting from the point of the seed-bud, concave above where it receives the mass of dust, which sometimes remains in it even after the flower is out of blossom; margin upright, with 5 teeth, beneath obliquely lopped. *Summit* flat, somewhat egg-shaped, green, glutinous, cloven at the point. ST.

Triple Ladies-traces.—Dry sandy and chalky pastures, and moist meadows. RAY.—[Dry barren clayey pastures, and on a boggy common. Mr. WOODWARD.—In a croft near Whitehall, on the

road from Truro to Redruth, Cornwall. Mr. WATT.]

P. July, Aug. [and Sept. ST.]

β LINN. larger.

Dod. 239. 1, repr. in Lob. obs. 89.* 3; ic. i. 186. 2, Ger. em. 218. 2, and cop. in Park. 1354. 2, and Ger. 167. 2.

common

O'PHRYS *ova'ta*. Bulb fibrous. Stem with 2 leaves. Leaves egg-shaped. Lip of the honey-cup cloven.—

Hall. 37. 1, at ii. p. 150.—Curt. iii. 30.—Garf. 425. 2.—Dod. 242. 1, repr. in Lob. obs. 161. 3; ic. i. 302. 2, the original figure, not that which is pasted over it, and cop. in Park. 504. 1.—Fuchf. 566, cop. in J. B. iii. 533. 2.—Fl. dan. 137, segments of the lip spear-shaped.—Matth. 1225.—Lonic. i. 241. 2.—Ger. 326.—Pet. 70. 10.—(Lob. ic. i. 302. 2, the figure pasted on, repr. in Ger. em. 403. 1, and cop. in H. ox. xii. 11. row 1. 1. f. 1, a different plant, as is evident from the crowded flowers, and floral-leaves as long as the seed-bud.)

Leaves opposite. Lip strap-shaped, cloven half way down. LINN.—Root renewed every year as the bulbs of the *Orchis*; fibres numerous, thick, fleshy. Stem 1 to 2 feet high, immediately above the root sheathed with 2 or 3 membranaceous shrivelled sheaths, below the leaves bare, and sometimes deep purple, above downy, and much thinner. Leaves oval, very broad, at about one third of the height of the stem, one embracing the other at the base, with about 7 ribs, much resembling those of *Plantago major*. Leaf-scales 2 or 3, oval, taper pointed, very short. Flowers numerous, yellowish green. Floral-leaves not half the length of the seed-buds, oval, taper pointed. Petals forming a kind of hood, the 3 outer spear-shaped, the 2 inner strap-shaped, somewhat tinged with purple. Lip as long as the seed-bud, nearly strap-shaped, rolled back at the edges; segments slightly straddling, with mostly a short pointed intermediate lobe. Tips yellow, connected at their points, covered by an oval appendage of the upper lip of the honey-cup, not elastic. Mr. WOODWARD.—Spike slender. Flowers of a fragrant musky scent. Mr. DICKENSON.—Root, fibres brownish white, scattered, somewhat zigzag. Stem tapering at the base; below the leaves obscurely 4-cornered, the angles formed by the ribs of the leaves running down, the mid-rib of each leaf forming the 2 most prominent opposite angles, the 2 strong lateral ribs of the outer leaf the 2 intermediate angles, and the same of the inner leaf forming 2 other lines only barely perceptible; above the leaves cylindrical. Leaves equal, expanding, generally bent to one side, spear-elliptical, pointed, very entire, smooth, with 3 strong ribs and to 10 intermediate finer ones, the spaces between the outer ribs

ribs gradually diminishing towards the edge of the leaf. *Bunch* long. *Flowers* scattered, expanding, distinct, somewhat resembling the figure of a man. *Fruit-stalks* 3-square, downy, as long again as the seed-buds. *Floral-leaves* egg-shaped, concave, as long as the fruit-stalks, one at the base of each. *Empal. cup* 1 leaf, somewhat bell-shaped; *tube* investing the seed-bud, contracted at the mouth; *border* with 3 divisions; segments egg-spear-shaped. *Blossom* 1 petal, irregular, with 4 divisions; segments unequal, the 3 upper approaching, the *middlemost* very small, involving the parts of fructification; the *side ones* strap-shaped, as long as the empalement, and inserted between its divisions; the *lowermost* thrice as long as the empalement, oblong, tapering towards the base, yellowish green, marked with a green line from the base of the summit to the bottom of the cleft, and sometimes moist with the same glutinous matter as the summit; segments oblong, blunt. *Honey-cup* none. *Chive* 1. *Tip* yellow, sitting, inserted by its point into the point of the summit, triangular, divided to the base, segments club-shaped, cloven, evidently 1, and not 2 as in *Orchis*, appearing like a tongue between the summit and the upper segment of the blossom, soon falling off. *Case of the chive* on the under side of the upper segment of the blossom, fleshy, folded into 2 cells, which inclose the 2 lobes of the tip in its earlier state, and when those are ripe and bursting from their inclosures have disengaged themselves, closing again, and pressing upon the tip, remaining after the tip is fallen off, and turning brown, might easily be mistaken for the tip. *Seed-bud* inversely egg-shaped, the corners sharp, somewhat downy, the sides convex, somewhat keeled. *Summit* fleshy, egg-shaped, projecting from the inner side of the seed-bud, bent in, moist and glutinous underneath. *ST.—Leaves* with 3 or 5 longitudinal channels on the upper surface, only 3 extending the whole length of the leaf, the 2 outer falling short. *Floral-leaves* broad, pointed, shorter than the fruit-stalks. *Petals*, the 3 outer concave, egg-spear-shaped, purplish green; the 2 inner small, oblong, blunt, purple, under which is a sort of mouth, containing the tips. *Lip* wedge-shaped, green. *Tips* very tender.

WITH.

Twayblade. Woods and moist shady thickets, and not unfrequent in meadows and pastures.

P. May, June.

Cows and Goats eat it.

β Mr. WOODWARD.—*Pluk.* 247. 2, cop. in *Pet.* 70. 12, with the addition of another smaller plant; *ST.*—but the leaves accord rather with those of *O. Loeselii*, and lip of the honey-cup not long enough, nor sufficiently divided. Mr. WOODWARD.

Differs from α as follows. Much smaller. *Leaves* sometimes 3, greener and smooth. *Spike* nearly of the same form and colour but much smaller. *Roots* creeping. PARK. RAY.—Much smaller in every respect. *Leaves* oval, pointed. MR. WOODWARD.

Bifolium palustre, Park. 505. R. syn. 385. (MR. WOODW. ST.)

Low wet grounds between Hatfield and St. Alban's, and divers places in Romney Marsh. PARK.—Boggy and fenny grounds near Gamlingay, Cambridgeshire. Hurst Hill and Tunbridge Wells. R. syn.—[Marshy ground. MR. WOODWARD.]

leaf O'PHRYS *cordata*. Bulb fibrous. Stem with 2 leaves. Leaves heart-shaped.—

Hall. 22. 2, *Ophrys*, &c. at ii. 132.—J. B. iii. 534. 2, *cop.* in Pet. 70. 11.—H. ox. xii. 11. row 1. 4.—Gunn. ii. 3. 6 is wanting in our copy.

Leaves opposite. Lip cloven, with a tooth on each side of the base, which is not the case in *O. ovata*. LINN.—Root, fibres not bundled. Stem 6 to 9 inches high. *Leaves* above the middle of the stem, heart-triangular, terminated by a small projecting point. *Spike* short, with few flowers. *Floral-leaves* minute, oval spear-shaped, as long as the fruit-stalks. *Petals* expanding, green, the 3 outer oval spear-shaped, the 2 inner spear-shaped. Lip strap-shaped, green, purplish at the base, divided below the middle; segments awl-shaped. MR. WOODWARD.

Moist mountainous heaths, especially in boggy ground, in Yorkshire, Lancashire, and Westmoreland. [On Ingleborough, and on the high moor between Sheffield and Chatsworth. Dr. SMITH.]

P. June, July.

* * *Bulbs* round.

dwarf O'PHRYS *Loeselii*. Bulb roundish. Stalk naked, 3-cornered. Lip of the honey-cup egg-shaped. LINN.—Bulb egg-shaped. Stalk angular. *Petals* strap-shaped. Lip roundish, entire. HUDS.*

* Comprehending *O. lilifolia* and *O. Loeselii* as varieties of one species. The reasons for this opinion remain to be assigned. ST.—It seems to be very clear that *O. lilifolia* has never been found in this country. The plant figured by Ehret, as above, is described by him as a native of Virginia. ST.—The plant of Ray syn. is undoubtedly *O. Loeselii*, MR. WOODWARD.

Fl. dan. 877, a very good figure, and much resembles a drawing Mr. Pitchford had taken of his specimen, when he first found it, except that it is larger. In this drawing, the 2 lower petals are wreathed in some of the flowers, as in the figure of the Fl. dan. but Mr. Pitchford cannot recollect whether they had that appearance in the recent plant. Bulb very exact, as is the oblong-wedge-shaped entire, lip, without any terminating point, in which it differs from *O. lilifolia* as figured by Ehret in the Phil. trans. 1763. t. 4, at p. 81. (Mr. WOODWARD.)—Lob. adv. alt. 506. 1, cop. in J. B. ii. 770. 1.—(Dod. 242. 2, the root of which is copied in Park. 504. 2. a, agrees with *O. Loefelii* in the roots, but the lip of the honey-cup is cloven.)

Root a bulb, ascending, with a branch. Leaves spear-shaped, 2, nearly as long as the stalk. Stalk 3-square above. Flowers 5 to 8, and not more. Petals narrow, bent back. Lip egg-shaped, large with respect to the rest. LINN.—Root bulbous, coated, the bulb egg-shaped, and throwing out roots from below. Stalk 6 inches high, upright, with from 3 to 5 angles, smooth. Root-leaves very entire, bare. Flowers in a bunch, yellowish green, 4 to 6 or 7. Petals, the 3 outer strap-shaped, bent back, green, the 2 inner on the sides thread-shaped, somewhat purplish. Lip very entire, somewhat purplish. Capsule upright, oblong, angular. Seeds numerous, small. HUDS.—Leaves spear-shaped, without ribs; those of *O. lilifolia*, as figured by Ehret, are ribbed, and much resemble those of *Plantago major*. Mr. WOODWARD.

Orchis lilifolius minor sabuletorum Zelandiæ et Bataviæ, Lob. adv. alt. 505, J. B. II. 770, descr. (Mr. WOODWARD. ST.) but the fig. in J. B. is that of *Satyrion repens*. (ST.)—*O. lilifolia Loefelii* β HUDS. [St. Faith's-Newton bogs near Norwich; a single specimen given to Mr. Lightfoot. Mr. PITCHFORD.—None since found either in Norfolk or Suffolk; but, in 1785, I saw a specimen from Mr. Sole, which was found near Bath. Mr. Woodw.] P. June, July.

O'PHRYS paludosa. Bulb roundish. Stalk nearly *marsh* naked; with 5 edges. Leaves rough at the end. Lip of the honey-cup entire. LINN. Mr. WOODWARD.—Bulb fibrous. Stem angular. Leaves sheathing. HUDS.

Rose 2. 3.—(Pluk. 247. 2, is referred to by Linnæus and Hudson, and yet the lip of the honey-cup is cloven at the end; * cop. in Pet.

70. 12,

* And Mr. WOODWARD.—The leaves too are much too long, and spear-shaped, agreeing rather with those of *O. Loefelii*, whereas in *O. paludosa* they are very blunt. Mr. WOODWARD.

70. 12, with the addition of another smaller plant. These seem to be *O. ovata* β.)

Bulbs egg-shaped, bowed in, throwing out roots below, cohering downwards as a chain, with a small branch between them. *Stalk* 5-cornered, naked for the greater part of its length. *Root-leaves* 3 or 4, spatula-shaped, alternate towards the end, especially on the upper surface, rough, the outer shorter.* *Bunch* with numerous flowers. *Flowers* green, yellowish. *Petals*, the 2 lateral ones egg-oblong, bent back, or upright; the 2 inner lateral ones strap-shaped, bowed back; the uppermost straight, forming the vault over the chives. *Lip of the honey-cup* spear-egg-shaped, bent back, entire. Differs from *O. Loeselii* in having many flowers, and the lip narrow, and from *O. monophyllos* in the leaves not being egg-shaped, in being rough at the end, and the fruit-stalks not being hair-like. LINN.—*Leaves* 2 or 3 from the root, and near the base of the stem half an inch long. *Stem* 3 to 4 inches high. *Spike* half as long as the stem. *Flowers* scattered. *Floral-leaves* spear-shaped, shorter than the fruit-stalks. MR. WOODWARD.

(*Bifolium palustre*, R. syn. 385 cannot be *O. paludosa*, as this last does not at all resemble *O. ovata*, nor has it creeping roots. It should seem to be *O. ovata* β.) MR. WOODWARD. ST.

Near Norwich. MR. PITCHFORD.—The other places of growth copied in the Fl. angl. from R. syn. should seem rather to belong to *O. ovata* β. ST.—[Fclthorpe Heath, Norfolk. MR. C. BRYANT and MR. CROWE.—Cawston Heath, near Norwich. MR. CROWE.]

P. June, July.

musk O'PHRY'S *Monor'chis*. Bulb globular. Stalk naked. Lip of the honey-cup cloven into 3 segments; cross-shaped.—

J. B. ii. 768. 3.—Fl. dan. 102.—Hall. 22. 4, *Monorchis*, at ii. p. 132.—Mich. 26. 3.—Gmel. i. 4. 1.—Rupp. 2. 5, *Monorchis*, at p. 238.

Root solitary. *Lip*, the lateral lobes transverse. *Flowers* yellowish green, sweet. LINN.—*Bulb* round, or somewhat oblong, with a few thick fibres from the crown. *Stem* about 6 inches high, cylindrical, smooth. *Root-leaves* 2 or 3, sheathing the stem, spear-shaped, smooth, shining, yellowish green, with parallel veins; *stem-leaves* 1 or 2, awl-shaped, sitting. *Spike* one or one and a half inch long, with numerous flowers. *Flowers* small, greenish yellow,

* In *exteriora breviora*. Sp. pl.—In *exteriore breviora*. Syst. pl.—Should it not be *exteriora breviora*, leaving out in? ST.

yellow, with a faint musky scent. *Floral-leaves* spear-shaped, taper pointed, the lower equal to or somewhat longer than the seed-bud, the upper somewhat shorter than the seed-bud. *Seed-bud* oval, fitting, tapering above into a sort of fruit-stalk, whence the flower hangs obliquely nodding. *Petals*, the 3 outer oval spear-shaped, somewhat approaching, the 2 inner broad at the base, scolloped, and suddenly narrowing into strap-spear-shaped. *Lip* deeply cloven into 3; segments spear-shaped. *Tips* rust-coloured. Mr. WOODWARD. *Yellow Orchis. Musk Orchis.*

Barren pastures in a calcareous soil. [Chalk pit at Marham, near Swaffham, Norfolk. Mr. WOODWARD.—Near Snettisham. Mr. CROWE.] P. July.

O'PHRYS *anthropoph'ora*. Bulbs roundish. Stalk *man* (rather stem) leafy. Lip of the honey-cup strap-shaped, divided into 3 segments, the middlemost lengthened out, cloven.—

Vaill. 31. 19 and 20 flowers.—Col. *ecphr.* i. 320. 1, *cop. in Pct.* 68. 8.—Hall. 23, at ii. 133.*—(*Fl. dan.* 103, a reference copied by Hudson, Richardson, and Relhan, is *Orchis ustulata*, as corrected in the index at the end of fasc. xii.)

Spike oblong. *Petals* approaching. LINN.—*Stalk* smooth, somewhat angular. *Leaves* sheathing. *Floral-leaves* sheathing, shorter than the seed-buds. *Flowers* 10 to 50, of an herbaceous hue. *Lip* narrow, hanging down, flat, with 4 clefts, longer than the seed-bud, yellow; segments strap-shaped. *Seed-buds* oblong, fitting. *Petals*, 3 of an herbaceous hue, with purplish borders. RELHAN.—*Bulbs* roundish. *Stem* about 1 foot high, firm, smooth, cylindrical at the base, somewhat angular upwards. *Root-leaves* 4 or 5, expanding, spear-shaped, varying in breadth; *stem-leaves*, 1 or 2 just above the former, closely embracing the stem. *Spike* long, loose. *Floral-leaves* membranaceous, spear-shaped, finely tapering at the end, half as long as the seed-buds. *Petals*, the 3 outer oval-spear-shaped, greenish, with purple lines and edges; the 2 inner strap-shaped. *Lip* long, the 2 outer segments strap-shaped, slender; the middlemost as long again, cloven half way down into 2, pointed and somewhat straddling, segments. Mr. WOODWARD.

Chalky meadows and pastures, near Northfleet, Greenhithe, and other places in Kent. [Ashwelthorpe, near Norwich. Mr. CROWE.] P. June.

* Larger, more robust, leaves more pointed, and flowers much larger than in my specimens. Mr. WOODWARD.

fly O'PHRYS *myo'des*.* JACQ.—Bulbs roundish. Stalk (rather stem) leafy. Lip of the honey-cup with 4 clefts, HUDS. ST.—oblong, with 4 divisions, the 2 middle segments lengthened out, spear-shaped. JACQ. in *syft. veg. ed.* xiv.

Hall. 24. 2, at ii. 135.—Gunn. ii. 5. 1.—Vall. 31. 17 and 18.—Walc.—Pet. 68. 10.—Dod. 238. 3, repr. in Lob. *obs.* 91. 1, and cop. in Park. 1352. 12.—Lob. *obs.* 90. 4, repr. in ic. i. 181. 1, Ger. em. 213. 6, and cop. in Park. 1352. 10.—(J. B. ii. 767. 3, has the lower lip egg-spear-shaped.)

Petals, the 3 outer egg-shaped, entire, smooth, herbaceous, expanding; the 2 inner strap-shaped, blackish purple. *Lip* oblong, blackish purple above, with a blue band below the upper lobes, herbaceous underneath. HUDS.—*Stem* sometimes two feet and a quarter high. *Spike* with sometimes 14 flowers. CURT. *obs. n.* 106.—*Stalk* slender, round, smooth. *Leaves* sheathing. *Floral-leaves* sheathing, longer than the seed-bud. *Flowers* 4 to 8, distant. *Lip* large, longer than the seed-bud, blackish purple, bent back at the sides; segments rounded. *Petals*, the 3 outer expanding, green; the 2 inner thread-shaped, blackish purple, resembling the feelers of an insect. *Seed-bud* oblong, fitting. RELHAN.—*Bulbs* roundish. *Stem* 9 to 15 inches high, firm, above naked, yellowish green, and nearly cylindrical. *Leaves* 3 or 4, spear-shaped, pale green, shining, with numerous longitudinal veins, the intermediate space covered with a thin, somewhat puckered, pellucid skin, giving a silvery hue. *Floral-leaves* strap-spear-shaped, keeled, much longer than the seed-bud, pale yellowish green. *Spike* long. *Flowers* thinly scattered, 4 to 15, having much more the appearance of a fly than those of *O. afifera* of a bee. *Petals*, the 3 outer yellowish green, strap-shaped, bent back at the edges, the middlemost at right angles with the lateral ones; the 2 inner expanding, deep reddish brown, fringed with short hairs, cloven at the base, fixed to the upper lip of the honey-cup. *Honey-cup*, the upper lip hooded, covering the chives; the lower with 3 lobes, the side lobes strap-shaped, short, entire; the middlemost somewhat oval, bent back at the edges, divided by a deep angular notch into 2 lobes, reddish brown, with a velvety down, with a bluish naked spot in the centre. *Chives* very short, and loose. *Tips* yellow. MR. WOODWARD.—*Honey-cup*, the upper lip half as short

* Where Linnaeus has given a trivial name to a variety, and such variety afterwards shall be proved to be a distinct species, the trivial name already given it ought to be retained as its specific name. ST.

short again as the outer petals, oblong, blunt; the lower oblong, nearly half as long again as the outer petals. ST.

Ophrys multijera. HUDS.—*O. insectifera myodes*. LINN.

Fly Orchis.—Meadows and pastures in a calcareous soil. Cambridgeshire, Suffolk, and Essex. Chalk Hills near Northfleet, and near Croydon and Wrootham. [Bath Hills near Bungay, and Earsham Wood, Suffolk. MR. WOODWARD.] P. May, June.

β Larger. LINN.—(*Lob. obs.* 91. 3, repr. in *ic.* i. 182. 1, *Ger. em.* 214. 8.—*Ger.* 173. 8, cop. in *Pet.* 69. 1, referred to in *R. syn.* and *Bauh. pin.* but there is a small tooth between the lower segments of the lip.)

Pasture near Pestlingford, Suffolk, and Welling, Hertfordshire; Greenhithe, and in the old chalk pit near the white house by N. Gray. *R. syn.*

O'PHRY S *apifera*. Bulbs roundish. Stalk (rather *bee* stem) leafy. Lip of the honey-cup with 5 lobes, the lobes bent in underneath. HUDS.—Lip shorter than the petals.* MR. WOODWARD.

Curt. i. 3.—*Walc.*—*J. B.* ii. 767. 1.—*Hall.* 24. 1. n. 5, † at ii. p. 135.—*Fuchf.* 560, cop. in *J. B.* ii. 766. 2.—*Trag.* 783.—*Vaill.* 30. 9. ‡—*Dod.* 238. 1, repr. in *Lob. obs.* 91. 2; *ic.* i. 180. 1, *Ger. em.* 212. 3; cop. in *Park.* 135. 5; and imitated in *Ger.* 166. 13, which cop. in *Pet.* 69. 2.—In *Duxb.* iii. 23, if the plant, the upper lobes of the lip far too long.—*Matth.* 880. 2.—(*Ger. em.* 212. 3, cop. in *Park.* 135. 4, is *O. aranifera*.)

Stem a foot high, cylindrical, between the flowers compressed. Leaves spear-shaped, alternate, sheathing, downy, ribbed. Floral-leaves longer than the seed-bud, spear-shaped. Petals, the 3 outer large, expanding, purplish, with the keel and 2 ribs green; the 2 inner very small, hairy, bent back, green. Honey-cup, the lower lip large, broad, shorter than the petals, brownish purple, with a tinge of yellow, with 3 lobes, the lateral ones smaller, hairy, bent back, triangular, tapering to a point; the middlemost very large, downy, with 3 lobes, bent down, the middle segment longer, tapering to a point; upper lip longer than the lower, green, narrowing upwards, with a point at the end. Threads long. Tips very large. Seed-bud longer than the petals, shorter than the floral-leaves, large,

* Labio petalis brevior. D. WOODWARD.

† The whole plant, and the rest of the smaller figures, appear to be the same with *Vaill.* 30, 10, 11, 12, and 13, which is Linnæus's *O. insectifera arachnites*. ST.

‡ Petals too broad and short. MR. WOODWARD. ST.

large, deeply furrowed. MART.—*Petals*, the 3 *outer* expanding, oblong, purplish, with 3 green ribs; the 2 *inner* on the side, strap-shaped, woolly, green. *Lip* large, roundish, silky, blackish purple, with a spot at the base, and on each side of it a blunt projecting tooth; the spot with 2 lobes, variegated with yellow, smooth, shining. HUDS.—*Stem* shorter than that of *O. myodes*. *Leaves* and *floral-leaves* broader and shorter. *Floral-leaves* longer than the seed-buds. *Petals*, the 3 *outer* sometimes bent back, spear-shaped, as long as the seed-bud, with the lips green and folded; the 2 *inner* expanding, purplish on the inside, green without. *Honey-cup*, the *upper lip* lengthened out into a long hooked kind of proboscis, deep green, with cases for the chives beneath; *lower lip* hairy, mottled with brownish purple and yellow; the 2 *upper and outer lobes* near the base, short, spear-shaped, at first bent upwards, afterwards bent back; the *middle lobe* very large, marked with 2 round yellow spots, the side lobes short, angular, the middlemost long, tapering to a point; point greenish yellow, bent back. MR. WOODWARD.—*Petals*, the 3 *outer* whitish-purple, concave, somewhat keeled, shorter than the seed-bud; the 2 *inner* egg-heart-shaped, nearly upright, of a purplish greenish brown, bent back at the edges, 7 times shorter than the outer. *Honey-cup*, the *upper lip* somewhat shorter than the outer petals, awl-shaped, zigzag at the point, concave; the *lower lip* rusty brown, very much resembling a small humble-bee, inversely egg-shaped; the *side lobes* bent down, woolly, the edges bent in, the upper angles loose and upright, resembling the wings of the bee. *Chives* yellow, inserted into the upper edge of the summit, bursting when the flower is expanded from the membranaceous cases of the upper lip of the honey-cup, and bending down on the surface of the summit, continuing fixed to its edge. *Threads* thread-shaped, elastic, glutinous, bulbous at the base, thrice as long as the upper lip. *Tips* club-shaped, compound, resembling those of the *Orchis*. *Dust*, none perceptible. *Seed-bud* not wreathed. It agrees much more nearly to *Orchis* in its structure, and confirms the propriety of Haller's generic characters. ST.

Ophrys insectifera LINN.—Bee Orchis. Bee-flower.

Meadows and pastures. South side of Great Comberton towards Wooller's-hill, frequent. NASH.—[Teddstone near Whitbourne, Worcestershire. MR. BALLARD.—Area of Carisbrook Castle, Isle of Wight. ST.—About Earsham, MR. WOODW.—and Mulbarton. MR. CROWE.]

P. June. RAY. July, Aug. HUDS.

spider O'PHRYS *aranifera*. Bulb roundish. Stalk (rather stem) leafy. Lip of the honey-cup roundish, entire,

entire, nicked, convex, HUDS.—longer than the petals.*
MR. WOODWARD.

Vaill. 31. 15 and 16, flowers.—Lob. ic. i. 179. 2, repr. in Ger. em. 212. 3, cop. in Park. 1350. 4, and Pet. 69. 3.—(Ger. em. 212. 4, cop. in Park. 1351. 5, is *O. apifera*, as is evident by the lips with 5 lobes.—Vaill. 31. 10, has an appendage at the end of the lip, and a lip much variegated.)

Petals, the 3 outer oblong, expanding, green; the 2 inner on the sides, strap-shaped, herbaceous, shorter. *Lip* large, coloured, silky; with a spot at the base, the spot with 2 lobes, shining, smooth; with a blunt tooth projecting on each side of the spot; concave underneath, blackish purple above, green at the edge, herbaceous underneath. HUDS.—Differs from *O. apifera* in having grassy helm and wings, and the shoulders of the honey-cup hairy. RELHAN. — Similar to *O. apifera*. Stem and leaves shorter. Floral-leaves narrower. Flowers smaller. *Petals*, the 3 outer oval-spear-shaped, blunt, greenish, much shorter than the lip; the 2 inner strap-shaped, very short. *Lip* rolled in at the edges, not lobed, only slightly nicked at the end, hairy, except the spot towards the base, dusky, with greenish margins, green underneath. MR. WOODWARD.

Ophrys insectifera 9 LINN.—(*O. insectifera arachnites* 7 LINN.—*O. arachnites*, MURR. in syst. veg. and *Orchis araneam referens*. BAUH. pin. 84, appear from the references to be a different plant, but not having seen the *O. arachnites*, I have not presumed to alter Mr. Hudson's name of *aranifera*, which will be so apt to be confounded with *arachnites* of the syst. veg. to *O. rubiginosa*. Ray says, "This I think is the plant which our herbarists have taken for the "*Orchis arachnites*." ST.)—*Orchis*, HALL. n. 1266. β , supposing it to be the *O. apifera*, in which he says, in the more advanced period of its growth, the middlemost segment turns back, and becomes this plant. But this segment is bent back in the *O. apifera*, even before the flower is fully expanded, not to mention that *O. aranifera* blossoms in May, and *O. apifera* usually not till July. MR. WOODWARD.

Chalky meadows and pastures, as about Northfleet; and gravel pits, as in one in the open field near Great Shelford, and near Bartlow, Cambridgeshire. In dry pastures about Branham near Tadcaster. [Near Bury. MR. WOODWARD.] P. April, May.

* *Petalis longiore*. D. WOODWARD.

insect O'PHRYS *insectifera*. Bulbs roundish. Stalk leafy. Lip of the honey-cup with mostly 5 lobes.—

α *O. insectifera myodes*. LINN.—*O. myodes*. JACQ. which see.

β LINN.—*O. aranifera* HUDS. which see.

γ LINN.—*O. apifera* HUDS. which see.

The varieties *myodes* and *arachnites*, may, to a transient observer, appear very distinct, but, if compared with other plants of the same tribe, and all the varieties be viewed together, it will be readily seen, that they all originate from one source, and that, though they should prove permanent varieties, yet that no certain limits can be fixed upon to distinguish them. LINN. sp. pl.—The varieties are constant, so that those who like may distinguish them. *mant. pl.*—The preceding observations on *O. myodes*, *apifera*, and *aranifera*, afford the best reply to the opinions of Linnæus, who, from his references, should seem not to have examined any living plants, excepting *O. myodes*, the only one noticed in the *Fl. suec.* none being mentioned in *Hort. cliff.* or *ups.* ST.

1097. SERA'PIAS. Helleborine.

EMPAL. *Sheaths* scattered. *Fruit-stalk* simple. *Cup* none. *Bloss.* *Petals* 5; oblong-egg-shaped; open, but rather upright, approaching upwards.

Honey-cup as long as the petals; hollowed at the base; filled with honey; egg-shaped; hunched beneath; cloven into 3; segments sharp; the middle-most heart-shaped; blunt; cloven at the seam of the base; with 3 teeth.

CHIVES. *Threads* 2; very short; fixed to the pointal. *Tips* upright; under the upper lip of the honey-cup.

POINT. *Seed-lud* beneath; oblong; twisted. *Shaft* growing to the upper lip of the honey-cup. *Summit* indistinct.

S. VESS. *Capsule* inversely egg-shaped; with 3 blunt edges; and 3 keels, growing to them; 3 valves; opening under the keels; 1 cell.

SEEDS numerous, like saw-dust. *Receptacle* strap-shaped; growing to each valve of the seed-vessel.

ESS. CHAR. *Honey-cup* egg-shaped; hunched; the lip egg-shaped.

SERA'PIAS

SERA'PIAS *latifolia*. Bulbs fibrous. Leaves common egg-shaped, embracing the stem. Flowers pendant. LINN.—Lip of the honey-cup blunt, as long as the petals. Fruit pendant. HUDS.—Upper-leaves spear-shaped. Lip of the honey-cup shorter than the petals. MR. WOODWARD.

Fl. dan. 811.—Gunn. ii. 5. 3 to 6.—J. B. iii. 516. 1 and 2.—Crantz. vi. 1. 6, a flower.—Hall. 40. 2, at ii. p. 151.*—Ger. 358. 1.—(Clus. i. 273. 1, repr. in Dod. 384, Lob. obs. 169; ic. i. 312. 1, Ger. em. 442. 1, and cop. in Park. 218. 4.—Fl. dan. 267, are *S. longifolia*.)

Spike of many flowers, long. Leaf-stalks (rather Fruit-stalks?) long. Fruit pendant. Honey-cup without any lines, LINN.—with heart-shaped prominence at the base. HALL. MR. WOODWARD.—Leaves very variable both in form and size, the lower in the plants gathered at Matlock egg-shaped, blunt, two and a quarter inches broad, and three or four long, in those gathered at the foot of Conzick Scar, smaller, oval-spear-shaped, closely embracing the stem; the 2 or 3 uppermost spear-shaped, fitting, as it were degenerating into floral-leaves. Floral-leaves, the lowermost as long or longer than the whole flower; the uppermost only as long as the seed-bud. Spike very long. Flowers numerous. Seed-bud pear-shaped. MR. WOODW.—Root, fibres thick, thread-shaped, hairy. Stems more or less of a brownish purple. Leaves all embracing the stem. Empal. leaves 3, brownish green, broad spear-shaped, veined. Petals, the 2 lateral ones resembling the leaves of the impalement, purplish green. Honey-cup, the upper lip glandular, white, fleshy; the lower distended at the bottom into a nearly globular hollow; purple within, and of a brownish green without, towards the end flat, purplish and somewhat scolloped. Tips yellowish white, connected to their case by a milk white globular substance. Case of the tips behind the pointals. Pointals 2, white, fleshy, fixed on the glandular receptacle. Capsule inversely egg-shaped, distended on the upper side, marked with 6 ridges. WITH. (*Helleborine*, Dod. 384, is *S. longifolia*. ST.)

Bastard Hellebore.—Woods, groves, and hedges. Common in the North Riding of Yorkshire, but I have as yet seen only one within 50 miles of Leeds. MR. WOOD.—[Matlock, Derbyshire, and northern counties, as Buckham Wood, Cumberland, and in

* This so exactly resembles the plants growing at the foot of Conzick Scar, that the drawing might seem to have been taken from them. MR. WOODWARD.

an elevated situation at the foot of Conzick Scar, four miles from Kendal, amongst loose stones and rubbish not accessible without some danger. Mr. WOODWARD.] P. July, Aug.

β HUDS.—*Blossoms* blackish red. *Leaves* narrower, closer set. It flowers later. RAY.—*Leaves* variously oval-spear-shaped, much longer and narrower than in α . *Flowers* very dark-coloured. Corresponding exactly with *Fl. dan.* 811, except that the *spike* was much longer. Mr. WOODWARD.

Serapias purpurascens. CURT. obs. 109 and cat. 802? ST.*

Sides of mountains near Malham, Yorkshire. RAY.—Mountainous rocky woods in the North. CURT.—[Woods in Westmoreland and Cumberland. Mr. WOODWARD.] Aug. CURT.

γ HUDS. *Serapias longifolia*, which see.

Being transplanted into a garden or a dry soil becomes variety α the second year. HUDS.—The very remarkable difference in the comparative length of the honey-cup and petals, observed by Scopoli and Lightfoot, and not noticed by Mr. Hudson, induced me to believe the plant, which was the subject of his experiments, to have been only a narrow-leaved variety of *S. latifolia*. ST.

marsh SERA'PIAS *longifolia*. Bulbs fibrous. Leaves sword-shaped, sitting. Flowers pendant. LINN.—Lip of the honey-cup longer than the petals, SCOP. LIGHTFOOT. ST. Mr. WOODW.—blunt, somewhat serrated. LIGHTFOOT.—*Leaves embracing the stem*. Mr. WOODWARD. ST.

Hall. 39, at ii. p. 154.—*Fl. dan.* 267.—Crantz. vi. 1. 5, flower.—Pet. 70. 8.—Clus. i. 273. 1, repr. in Dod. 384, Lobel. 169; ic. i. 312. 1, Ger. em. 442. 1, and cop. in Par. 218. 4, and cop. in Pet. 70. 5.

Stem taller than that of *S. latifolia*. Spike long, of many flowers. Fruit-pendant. Flowers as large again. Petals broader. Honey-cup adhering to the other petals; the boat with purple lines. HALL.—Root creeping. RAY. HALL.—Spike loose, with 15 to 21 flowers. Petals, the 3 outer slightly downy, green, with a tinge of purple; the 2 inner white, with a red blush. Lip projecting beyond the rest of the flower, at first swelling down into a kind of boat, which is marked with red lines and yellow spots; afterwards expanding into a border.

* Mr. Curtis refers indeed to *Helleborine altera atro-rubente flore*, R. f. 383, but Mr. Woodward's observations convince me that Ray's plant is mere variety of *S. latifolia*. Till therefore Mr. Curtis shall favour us with a specific character, it may be allowable, perhaps, to conjecture, that the *S. purpurascens* will prove to be *S. rubra*, the synonyms of which are to be found in R. syn. 384. n. 7. See *S. grandiflora* β . ST.

a border, heart-shaped, white, plaited at the edge. HALL. LIGHTF. Mr. WOOD.—The outer half of the *lip of the honey-cup* so slightly attached as to be shaken off by a small motion, and is often blown off by the wind while the plant is growing. Mr. WOOD.—Flowers mostly from one side of the stem. *Lip* divided transversely almost through; the half next the receptacle boat-shaped, with purple ribs, and at bottom with a yellow line, spotted with orange; the outer half hanging down, roundish, and has an angular hunched appendage at the base, in which, previous to the expansion of the flower, the tips were inclosed. *Seed-bud* long and narrow, which, in *S. latifolia*, is short and inversely egg-shaped, when fully grown elliptical, not at all pear-shaped, with 6 ridges, 3 lines long, and 3 wide. Mr. WOODWARD.—Leaves sometimes egg-spear-shaped, with 7 ribs, Mr. HOLLEFEAR. ST.—and sometimes egg-oblong and blunt. *Floral-leaves*, the lowermost of the same shape as the upper leaves, and about the length of the flowers, those above gradually shorter. *Fruit-stalks* downy, thread-shaped. *Seed-buds* downy, slightly scored, long, tapering down to the fruit-stalks, and a little towards the point. *Tips* yellow. ST.

Serapias latifolia palustris γ HUDS. which is inserted in *Relh. fl. cantab.* p. 341. l. 7.—*S. palustris* SCOP. who had not then seen the corrections made by Linnæus in the syst. nat. ed. xii.—and of LIGHTF. also, though he quotes that very edition. I am at a loss to conjecture what is the *S. longifolia* of Curt. cat. 802, the *S. longifolia* of Hudson being the *grandiflora*, and the *S. longifolia* of Linnæus the *S. palustris* of SCOPOLI and LIGHTFOOT, both of which immediately follow in his catalogue.—*Helleborine* Dod. pempt. 384. ST.

Marshy and watery places. Bogs at Chiffelhurst. RAY.—Dry chalky ground, as in the old chalk pits by the White House, between Eltham and North Cray. SHERARD in *R. syn.*—[Plentifully in one morassy spot of 2 or 3 acres, within a mile of Leeds, and hitherto I have observed it no where else. Mr. WOOD.—Swampy meadows Robison's-street, on the borders of Malvern Chase, Worcestershire. Mr. BALLARD.—Bogs in Norfolk, frequent. Mr. WOODWARD.] P. July, Aug.

SERA'PIAS *ensifolia*. MURR.—Bulbs fibrous. *sword-leaved* Leaves sword-shaped, pointing from 2 opposite lines. Floral-leaves very minute. Flowers upright. Lip of the honey-cup blunt, shorter than the petals. LINN. THE SON, *suppl. pl.*

Fl. dan. 506.

Root, fibres many, thickish. Stem sometimes more than a foot high, upright. Root-leaves long, narrow, pointed, resembling
3 T 2 those

those of reeds; *stem-leaves* narrow. *Flowers* white, 8 or 10, in a loose spike. RAY. Mr. WOODW.—*Stem* a foot high, sometimes slightly twisted. *Stem-leaves*, the longest 6 inches long, half an inch wide, bright green, smooth, shining, with 5 or 7 principal ribs, the lower embracing the stem, the upper sitting, alternate, and pointing from 2 opposite lines. *Floral-leaves* spear-shaped, one-eighth to one-fourth of an inch long. *Seed-vessels* upright, elliptical, but from the projecting ribs appearing 3-cornered, longer and narrower than those of *S. longifolia*. Mr. WOODWARD.

Serapias Xiphophyllum. Ehrh. in Linn. suppl. pl. 404.—*S. grandiflora* α Pollich. 861, β Reich. syst. pl.—*Xiphophyllum*. Ehrh. phytoph. n. 67.—*Serapias longifolia* γ Huds.—*S. angustifolia*. Curt. cat. 802? ST.

Under Brackenbrow or Brackenuray, opposite Helk's Wood. In the end of a wood where *Cypripedium Calceolus* grows, one mile from Ingleton, Yorkshire. R. syn.—[Lord Lonsdale's woods, at Lowther, Westmoreland. Mr. WOODWARD.]

white SERA'PIAS *grandiflora*. Bulbs fibrous. Leaves sword-shaped. Flowers upright. Lip of the honey-cup blunt, shorter than the petals. LINN. syst. veg. ed. xiii. and Syst. pl. LIGHTFOOT. ST.—Leaves egg-spear-shaped. Floral-leaves as long as the capsules. LINN. THE SON, suppl. pl.—Fruit upright. HUDS. Mr. WOODWARD.

Hall. 41, at ii. p. 155.—Ger. 358. 2, cop. in Pet. 70. 7, and abridged in H. ex. xii. 11. 12.—Crantz. vi. 1. 4.—(Fl. dan. 506, is *S. ensifolia*.)

Flowers white, large, and, as is the fruit also, upright. Lip of the honey-cup short, not so pointed, with prominent lines. HALL.

Serapias longifolia. HUDS. which is inserted in Relh. fl. cantab. n. 64. l. 3.—*S. Lenchophyllum*. EHRHART in suppl. plant. inserted I doubt not by himself, and without the approbation of LINN. THE SON, whom I have heard several times complaining of the very improper liberties taken with his copy, by Mr. Ehrhart, who was concerned in the printing of it in Germany. Ehrhart refers to no figures, giving *S. grandiflora (lanceifolia)* Syst. veg. ed. xiii, as a synonym, but the word *lanceifolia* is not there to be found.—*S. lanceifolia*. MURR. in syst. veg. ed. xiv, too hastily rejecting the name of a master whom I know he reveres, and adopting the interpolation of an editor who, capable as he has shewn himself of making valuable observations, ought to resign to superior abilities the glory of distinguishing himself by the re-naming of well known plants. I have in my possession a sheet which Linnaeus the Son was obliged to have cancelled, given me by the late M. Du Roi of Brunswick, which

CHIVES on the POINTAL, II. CHIVES.

1001

which I preserve as at once a botanical curiolity and memorial of that ingenious phyſician and botaniſt. ST.

Woods and thickets, near Stoken Church, Oxfordſhire; about Marlōw, and in Bedford and Buckinghamſhire. [Mr. Knight's Walks, Wolverley, Worceſterſhire. ST.] P. Aug. [May. ST.]

β HUDS.—Dillenius afferts the plant here referred to in R. ſyn. 384. n. 4. to be the ſame with α. ST.

γ HUDS.—*Serapias enſifolia*, which ſee.

δ HUDS.—Flowers purpliſh. RAY.

Chif. i. 273. 2, repr. in Ger. em. 442, and cop. in Park. 218. 3,

ſ. B. iii. 517. 1, and H. ox. xii. 11. 5.—Ger. 358. 3, cop. in

Pet. 70. 9. The figures referred to in R. ſyn. are *S. rubra*,

which is figured alſo in Hall. 42, at ii. p. 157, and Fl. dan. 345.

Helleborine mont. anguſtiſ. purpureaſc. Bauh. pin. 187, referred to in R. ſyn. is *S. rubra*. ST.

From Ireland. PLUK. in R. ſyn.—This and γ in thickets on the ſides of mountains about Clapham and Ingleton, Yorkſh. HUDS.

1100. CYPRIPE'DIUM. Ladies-flipper.

EMPAL. Sheath ſcattered. Fruit-ſtalk ſimple. Cup none.

BLOSS. Petals 4 or 5; narrow and ſpear-shaped; very long; expanding; upright.

Honey-cup within the lower petal; ſhaped like a flipper; blown up; blunt; hollow; ſhorter and broader than the petals; the *Upper Lip* ſmall; egg-shaped; flat; bent inwards.

CHIVES. Threads 2; very ſhort; fixed to the pointal.

Tips upright; covered by the upper lip of the honey-cup.

POINT. Seed-bud beneath; long; twiſted. Shaft very ſhort; growing to the upper lip of the honey-cup. Summit indiſtinct.

S. VESS. Capsule inverſely egg-shaped; with 3 blunt edges, and 3 ſeams, under which it opens at the angles; valves 3; cell 1.

SEEDS numerous; very ſmall. Receptacle ſtrap-shaped; growing lengthways to each valve of the ſeed-veſſel.

ESS. CHAR. Honey-cup bellying; inflated; hollow.

CYPRIPE'DIUM *Calce'olus*. Roots fibrous. Leaves common egg-ſpear-shaped, on the ſtem.—

GYNANDRIA DIANDRIA:

Hall. 43, at ii. p. 157.—*Gmel.* i. 1, parts of fructification.—*Mill.* 242.—*Clus.* i. 272, repr. in *Dod.* 180. 2, *Lob. ic.* i. 312. 2, *Ger. em.* 443. 2, both in flower and fruit, and that in flower cop. in *H. ox.* xii. 11. 14, and *J. B.* iii. 518.—*Dod.* 180. 1, repr. in *Ger. em.* 443. 1, and cop. in *Park.* 217. 3, *Ger.* 359, and *Pet.* 70. 4.

Petals 4. *LINN.*—Stem a foot high and upwards, the upper part downy. *Leaves*, the lower sheathing, the upper embracing the stem, with 7 or 9 principal ribs, and very numerous intermediate ones, all beset with short hairs on both sides. *Floral-leaves* like the other leaves, only smaller. *Flowers* on fruit-stalks. *Seed-bud* downy. *Petals* disposed cross-wise, purple, slightly downy, with parallel veins; the upper broader, the 2 lateral ones narrower, the 4th the shortest, hanging over the opening of the lip. *Lip* curved, rounded at the bottom, the edges contracted, resembling a wooden shoe, pale yellow, marked within with deep orange hairy lines. *Capfule* upright, about an inch long, somewhat prism-shaped, with 3 flat sides, and 3 ribbed angles. *Mr. Woodward.*

Ladies-slipper.

Woods and thickets, but rather rare. Woods in Lancashire; and Helk's Wood by Ingleborough, Yorkshire. *RAY.*—Woods about Clapham and Ingleton, Yorksh. *Huds.*—Woods and hilly pastures in the neighbourhood of Kilnsay, Yorkshire. *CURT.*—[Woods about Kilsey Crag Wharfedale, Yorkshire. *Mr. Wood.*—I searched for it in vain in Helk's Wood, a gardener of Ingleton having eradicated every plant for sale. *Mr. Woodward.*—The gardeners might make the botanists amends, at the same time that they would enrich themselves, by proving by experiment that one at least of the *Orchis* tribe may be raised from seed. *ST.*]

P. July

Goats eat it.

Order V.

HEXANDRIA; VI. CHIVES.

1111. ARISTOLOCH'IA. Birth-wort.

EMPAL. *Cup* none.

BLOSS. *Petal* 1; tubular; irregular; the base distended; nearly globular; with protuberances. *Tube* oblong; cylindrical; but 6-sided. *Border* spreading; extending downwards into a long tongue.

CHIVES. *Threads* none. *Tips* 6; growing to and underneath the summits; with 4 cells in each.

POINT. *Seed-bud* oblong; angular; beneath. *Shaft* hardly any. *Summit* nearly globular; with 6 divisions; concave.

S. VESS. *Capsule* large; with 6 corners and 6 cells.

SEEDS many; flattened; fixed sideways.

ESS. CHAR. *Pointals* 6. *Empalement* none. *Blossom* of 1 *petal*; *tongue-shaped*; entire. *Capsule* beneath; cells 6.

Obs. In some species the seed-veff. is roundish, in others long.

ARISTOLOCH'IA *Clemat'itis*. Leaves heart-shaped. Stem upright. Flowers crowded, in the bosom of the leaf-stalks.—

Ludw. 105.—Riv. mon. 116.—Mill. illustr.—Mill. ic. 51. 1.—Blackw. 255.—Clus. ii. 71, repr. in Dod. 326.—Lob. obs. 332. 2; ic. i. 697. 2, and Ger. em. 847. 4; and cop. in H. ox. xii. 17. 5.—Ger. 697.—Lonic. i. 134. 2.—Fuchf. 90, cop. in Trag. 178.—Matth. 648.—Gars. 5. A.—(Ger. em. 847. 3, and Park. 292. 5, the figures referred to by Hudson are A. bœtica.)

Leaves alternate, smooth, on leaf-stalks. Flowers on fruit-stalks, yellowish green. RELHAN.—Stem upright, 2 or 3 feet high, simple, scored, cylindrical, smooth, slightly zigzag. Leaves alternate, blunt, shining above, pale green, smooth and veiny underneath. Leaf-stalks nearly as long as the leaves. Flowers 6 or more together, upright or hanging down. Blossom scored, yellowish green, often tinged with purple. Capsule egg-shaped, blunt, hanging down. Mr. WOODWARD.—Stem scored, taking a different direction at each joint; joints smooth, shining. Blossom yellow at the ends, greenish at the base. WITH.

Woods and hedges. Wood 2 miles from Thorndon, Essex, and in Cambridgeshire. BLACKSTONE.—Near Maidstone, Kent. HUDS.—[Stuften, Suffolk. Mr. Woodw.] P. July—Sept. The *Tipula pennicornis* fecundates the flowers. SCHREBER.

Order VIII.

POLYANDRIA; MANY CHIVES.

1119. A'RUM. [See *Monoecia Monandria*.]

1123. ZOSTE'RA. Grass-wrack.

EMPAL. *One of the leaves sheathing at the base; approaching lengthways; notched at the upper part on each side; inclosing the spike-stalk. Spike-stalk strap-shaped; flat; with chives above and on one side; and pointals below. Cup none.*

BLOSS. none.

CHIVES. *Threads alternate; many; very short; on the fruit-stalk above the seed-buds. Tips oblong-egg-shaped; nodding; blunt; awl-shaped upwards and backwards; crooked.*

POINT. *Seed-buds not so numerous as the chives; egg-shaped; compressed; 2-edged; on little foot-stalks fixed to the end; nodding; alternate. Shafts none. Summits hair-like; simple.*

S. VESS. *membranaceous; unchanged; opening lengthways at the side-edge.*

SEEDS *single; egg-shaped.*

ESS. CHAR. *Spike-stalk strap-shaped, with fruit on one side. Empalement none. Blossom none. Chives alternate. Seeds solitary, alternate.*

sea ZOSTE'RA *marina*: Seed-vessels fitting, LINN.—oblong, mostly on fruit-stalks, both sitting and on fruit-stalks in the same plant. HUDS.

Fl. dan. 15.—(Lob. obs. 471. 2, repr. in ic. ii. 248. 2, Ger. em. 1569. 8, and cop. in Park. 1292. 1.—J. B. iii. 794, are *Z. oceanica* of Linnæus and *Z. marina* β of Hudson.)

Stems

Stems much branched. *Leaves* floating, long, grass-like, blunt, from leaf-scales. *Leaf-scales* sheathing, pointed. *Flowers* in a cavity, 3 or 4 inches long, on one side of the leaf near the base, which is at first covered with a thin transparent skin. Mr. Woodward.

Fucus sive Alga marina graminea angustifolia seminifera ramosior. R. syn. 52.—Mr. Hudson refers Linnæus's synonyms of *Z. oceanica* to his *Z. marina* α , and those of *Z. marina* to his *Z. marina* β . ST.

On the sea shores, almost every where. [Salt water ditches, Yarmouth. Mr. Woodward.] P. June—Aug.

Thrown on the sea shore by the tide, in great plenty, and mounds or walls are built with it to oppose the encroachment of the sea. Exposure to the weather bleaches it white. Buildings are thatched with the green leaves, and it will endure upwards of a century. It is used by the inhabitants of Gothland in Sweden as a manure, and also for stuffing beds, in preference to hay, as being softer.

Horses and Swine eat it. Cows are not fond of it.

β HUDS. Seed-vessels on fruit-stalks, olive-shaped. LINN.

Lob. obs. 471. 2, repr. in *ic.* ii. 248. 2, *Ger. em.* 1569. 8, and *cop. in Park.* 1292. 1.—*J. B.* iii. 794.

Differs also from *Z. marina* in the roots being matted into a ball.

LINN.—*Z. oceanica.* LINN.—(*Fucus sive Alga marina graminea angustifolia seminifera ramosior.* R. syn. 52. is *Z. marina* [α of HUDS.] according to Linnæus.) ST.

γ HUDS. Smaller than β in all respects. Scarcely a foot high. RAY.

Round the shores of the Isle of Mersey.

δ HUDS. Smaller than α in all respects. R. syn. 53. n. 4.—

Leaves $1\frac{1}{4}$ tenth of an inch wide. ST.

Portsea Island at Gatham Haven. R. syn.

ϵ HUDS. Suspected to be the same with γ . R. syn. 53. n. 5.

Class XXI.

M O N O E C I A.

CHIVES and POINTALS Separate.

ALL the Classes hitherto mentioned, are composed of Plants, whose Flowers contain *Chives* and *Pointals* within the *same* empalement; but the plants of this Class have the *Chives* in one flower, or in one empalement, and the *Pointals* in another.

The flowers that contain the CHIVES are BARREN; those that contain the Pointals are FERTILE.

The *Barren* and the *Fertile* flowers of this Class, are always found upon the *same* plant.

From this account it is evident, that in giving the Generic characters, it is necessary to describe both the Barren and the Fertile Flowers. Therefore

B, signifies the *Barren Flower*, or that with Chives only;
and

F, signifies the *Fertile Flower*, or that with only Pointals.

OBS. Florets inclosed in a *Common Empalement*, though agreeing in the disposition of the Chives and Pointals, are not to be referred to this Class. This caution is necessary in order to exclude some of the *Rundle bearing Plants* of the *fifth*, and some of the *Compound Flowers* of the *nineteenth* Class.

Order I.

MONANDRIA; I. CHIVE.

1119. A'RUM. Sheath and Spike-stalk.
 B, Cup o. Blofs. o. Chives above
 the pointals.
 F, Cup o. Blofs. o. ST.
 1127. CHA'RA. B, Cup o. Blofs. o.
 F, Cup 4 leaves. Blofs. o. Sum-
 mit with 5 clefts. Seed 1.
 1124. ZANNICHEL'LIA. B, Cup o. Blofs. o.
 F, Cup 1 leaf. Blofs. o. Pointals
 4. Seeds 4.

† Callitriche verna.

Order II.

DIANDRIA; II. CHIVES.

1130. LEM'NA. B, Cup 1 leaf. Blofs. o.
 F, Cup 1 leaf. Blofs. o. Shaft 1.
 Caps. 1 cell.

Order III.

TRIANDRIA; III. CHIVES.

1137. CA'REX. B, Catkin, 1 flower in each scale.
 Blofs. o.
 F, Catkin, 1 flower in each scale.
 Blofs. 1. Shaft 1. Seed 1;
 coated.

1132. SPARGA'NIUM.

1132. SPARGA'NIUM. B, *Cup* 3 leaves. *Blofs.* o.
 F, *Cup* 3 leaves. *Blofs.* o. *Sum-*
mits 2. *Seed* 1.
 1131. TY'PHA. B, *Cup* 3 leaves. *Blofs.* o.
 F, *Cup* hair-like. *Blofs.* o. *Shaft*
1. Seed 1; feathered.

† *Amaranthus blitum.*

Order IV.

TETRANDRIA; IV. CHIVES.

1149. UR'TICA. B, *Cup* 4 leaves. *Blofs.* o. *Honey-*
cup glass-shaped.
 F, *Cup* 2 valves. *Blofs.* o. *Sum-*
mit hairy. *Seed* 1; egg-
 shaped.
 1148. BUX'US. B, *Cup* 3 leaves. *Blofs.* 2 petals.
 F, *Cup* 4 leaves. *Blofs.* 3 petals.
Summits 3. *Caps.* 3 cells.
 1147. BET'ULA. B, *Catkin*, 3 flowers in each scale.
Blofs. with 4 divisions.
 F, *Catkin*, 2 flowers in each scale.
Blofs. o. *Shafts* 2. *Seed* 1;
 egg-shaped.
 1145. LITTOREL'LA. B, *Cup* 4 leaves. *Blofs.* 4 clefts.
Chives very long.
 F, *Cup* o. *Blofs.* 4 clefts. *Shaft*
 very long. *Seed* a nut.

† *Ilex aquifolium.* *Plantago uniflora.* [*Myrica Gale.* ST.]

Order V.

PENTANDRIA; V. CHIVES.

1152. XAN'THIUM. B, *Cup* common; many leaves.
Blos. 5 clefts. *Threads* connected.
 F, *Cup* 0. *Blos.* 0. *Shafts* 2. *Nut*,
 2 cells.
1157. AMARAN'THUS. B, *Cup* individual, 5 leaves.
Blos. 0. *Chives* 3 or 5.
 F, *Cup* individual, 5 leaves.
Blos. 0. *Shafts* 3. *Caps.* cut
 round.

Order VIII.

POLYANDRIA; MANY CHIVES;
(MORE THAN VII.)

1164. SAGITTA'RIA. B, *Cup* 3 leaves. *Blofs.* 3 petals.
Chives about 24.
 F, *Cup* 3 leaves. *Blofs.* 3 petals.
Pointals 100. *Seeds* numer-
 ous.
1163. MYRIOPHYL'LUM. B, *Cup* 4 leaves. *Blofs.* 0. *Chives* 8.
 F, *Cup* 4 leaves. *Blofs.* 0. *Point.*
 4. *Seeds* 4.
1162. CERATOPHYL'LUM. B, *Cup* with about 7 divisions.
Blofs. 0. *Chives* about 18.
 F, *Cup* with about 7 divisions.
Blofs. 0. *Point.* 1. *Seed* 1.
1167. POTE'RIUM. B, *Cup* 3 or 4 leaves. *Blofs.* with
 4 divisions. *Chives* about 32.
 F, *Cup* 3 or 4 leaves. *Blofs.* 4
 petals. *Pointals* 2. *Seeds* 2;
 inclosed.
1170. FA'GUS.

1170. FA'GUS. B, *Cup* with 5 clefts. *Bloss.* o.
Chives about 12.
 F, *Cup* with 4 clefts. *Bloss.* o.
Shafts 3. *Caps.* 2 feeds.
1168. QUER'CUS. B, *Cup* with 5 clefts. *Bloss.* o.
Chives about 10.
 F, *Cup* entire. *Bloss.* o. *Shafts* 5.
Seed an *Acorn*.
1172. COR'YLUS. B, *Catkin* tiled. *Bloss.* o. *Chives* 8.
 F, *Cup* 2 leaves. *Bloss.* o. *Shafts*
 2. *Fruit* a *Nut*.
1171. CAR'PINUS. B, *Catkin* tiled. *Bloss.* o. *Chives*
 10.
 F, *Cup* with 6 clefts. *Bloss.* o.
Pointals 2. *Fruit* a *Nut*.

Order IX.

MONADELPHIA;
 THREADS UNITE D.

1173. PI'NUS. B, *Cup* 4 leaves. *Bloss.* o. *Chives*
 many.
 F, *Catkin* like a cone. *Bloss.* o. *Point*.
 2. *Nuts* 2; winged.

Order I.

M O N A N D R I A; I. C H I V E.

1119. A'RUM. Cuckowpint.

EMPAL. *Sheath* of 1 leaf; very large; oblong; lapped round at the base; approaching at the top; compressed in the middle; coloured on the inside.

Sheathed Fruit-stalk club-shaped; undivided; a little shorter than the sheath; coloured; set round with seed-buds on the lower part; above the seed-bud shrivelling.

BLOSS. none.

CHIVES. *Threads* none; unless the *Honey-cups*, which are thick at the base, and terminated in thread-shaped *Tendrils*, growing in 2 rows round the middle of the fruit-stalk. *Tips* many; sitting; 4-edged; fixed to the spike-stalk; disposed between the two rows of tendrils.

POINT. *Seed-buds* many; inversely egg-shaped; covering the base of the fruit-stalk beneath the chives. *Shafts* none. *Summits* bearded with soft hairs.

S. VESS. *Berries* numerous; globular; with 1 cell.

SEEDS many; roundish.

ESS. CHAR. *Sheath* of 1 leaf; hood-like. *Spike-stalk*, naked above, with pointals below, and chives in the middle.

Obs. The wonderful and unparalleled structure of this flower hath given rise to many disputes amongst the most eminent botanists.—The *Receptacle* is lengthened out into a naked club, with seed-buds surrounding its base. The *Chives*, which is truly wonderful, are fixed to the receptacle *more within* than the seed-buds, and consequently standing less in need of threads to elevate them. Hence it may be said to be an inverted flower. What are the above-mentioned tendrils noticed under the name of threads? LINN.—On the genus *CALLA* Linnæus makes the following remark. ST.—As in each *Berry* there are several seeds, it follows that each *Pointal* belongs to as many distinct *Florets*, and that they do not constitute parts of merely one flower; but as from the deficiency of an *Emalement* and *Blossom*, the *Chives* are not separated, it is difficult to assign

assign any fixed number to each floret. From the analogy with the *Palms* I should conjecture the number belonging to each floret to be 6. LINN.—The argument drawn from the number of seeds in each berry holds equally good with *Arum*, as there are frequently more than 1 seed in each berry. His excellent son, truly worthy of his great father, and whose memory will be ever dear to me, appears to have been led to the same conclusion from the consideration of other facts, apparently having forgotten the above remark of his father's. In a letter written in English on his return home, dated May 6th, 1783, and which I received only a few months before his death; after speaking of some differences of opinion subsisting between him and the ingenious Hedwig, about the nature of the Chives and Pointals of the Mosses, which will be treated of in its proper place, he says, “ You know in the *Compound Flower*. “ that every floret is a separate flower; that every floret in the “ catkins of *Saururus*, *Piper*, and *Pothos*, and every tip in the “ scales of the catkins of *Zamia* is a distinct floret. When I attend “ to these facts, to the nature of female catkins, and the singular “ fructification of *Pandanus*, I understand the structure of *Arum* “ which I never before could, nor any one else. Every pointal “ and every tip is to be considered as a distinct floret, a consequence of which is that it must be removed to *Monoecia*. “ *Monandria*.” LINN. THE SON. (ST.)

common A'RUM *maculatum*. Without a stem. Leaves halberd-shaped. very entire. Spike-stalk club-shaped.—

Curt. ii. 19.—Riv. mon. 124. 1, *Arum*.—Mill. ill.—ic. 52. 1.—Blackw. 228.—Fl. dan. 505.—Bulliard.—Fuchs. 69, cop. in J. B. ii. 784.—Dod. 329. 2, repr. in Lob. obs. 325. 2, ic. i. 597. 2, Ger. em. 834. 1, and cop. in H. ox. xiii. 5. row 3. 1.—Lonic. i. 200. 1.—Trag. 774.—Matth. 596, abridged in Park. 373. 1. 2.

Spike-stalk, the upper part purple, sometimes buff-coloured, and sometimes mottled with buff and purple. *Seed-buds* greenish yellow, the upper terminating in a hair-like or awl-shaped shaft of funnity, purple at the end. *Tips* of 2 open cells. *Dust* yellow. *Honey-cups*, the row above the chives exactly similar to the upper seed-buds. WITH.—*Leaves* generally spotted with black spots. *Sheath* conical; pale green. *Berries* red, growing in a naked cluster. *Wake-Robin*. *Cuckow-pint*. *Lords and Ladies*. [*Bloody-men's-finger*. Worcester-shire. ST.]

Shady places, ditch banks and rough grounds.

P. May

The berries ripen about the close of summer. CURT.—The root and the leaves when recent, are so extremely acrid, that it is highly disagreeable

disagreeable to taste them. The root has been employed in medicine as a stimulant, but when reduced to powder it loses much of its acrimony, and there is reason to suppose that the compound powder which takes its name from that plant, owes its virtues chiefly to the other ingredients. There is no doubt but this acrid quality may be turned to very useful purposes, but we must first learn how to ascertain its dose.—The root dried and powdered, is used by the French to wash their skin with, and is sold at a high price, under the name of Cyprus Powder. It is undoubtedly a good, and an innocent cosmetic.—When the acrimony of the roots is extracted, either by boiling or baking, they certainly will afford a very mild and wholesome nourishment. Many nations prepare the only bread they have, from plants as acrimonious as this; first dissipating the noxious qualities by the force of heat.—Starch may be made from the roots.

✓ Leaves with black spots and white streaks. *Bot. Arr. ed. i. St.*

1124. ZANNICHEL'LIA. Lake-weed.

B. Barren Flower.

EMPAL. none.

BLOSS. none.

CHIVE. *Thread* single; simple; long; upright. *Tip* egg-shaped; upright.

F. Fertile Flower standing near the other.

EMPAL. *Cup* 1 leaf; hardly perceptible; distended; with 2 teeth.

BLOSS. none.

POINT. *Seed-buds* 4; like little horns; approaching. *Shafts* 4; simple; rather expanding. *Summits* egg-shaped; flat; expanding outwards.

S. VESS. none.

SEEDS 4; oblong; tapering at each end; hunched on one side; covered with a bark; crooked; bent back.

ESS. CHAR. (Flowers with chives and pointals.) *Empal.* o. *Bloss.* o.

(Flowers with pointals.) *Empal.* 1 leaf. *Bloss.* o. *Seed-buds* about 4. *Seeds* as many.

ZANNICHEL'LIA *palustris*. —

horned

α? ST. *Tip* with 2 cells. *Summits* and *empalements* scolloped at the edge. *Seed-vessels* rough along the ridge. *MICH.*

Mill. ill.—*Fl. dan.* 67.—*Pluk.* 102. 7, *cop. in Pet.* 6. 2, and *Brit. herb.* 80, in fruit.—*Mich.* 34. 2.

Seeds either entire or toothed on the back. *Huds.*—*Leaves* bristle-shaped. *Seed-buds* horn-like. *RELHAN.*—The uncommon breadth of the *summits* is the most remarkable peculiarity in this plant; and whether they float upon the surface of the water, or are sunk beneath it, they are equally calculated to receive the dust from the chives which stand above them. *Bot. Arrang. ed. i.* *St.*—The habit of a *Potamogeton*; slender and much branched. *Leaves* thread-shaped, grass-like, 2, 3, or 4 out of the same sheathing prop. *Seed-coats* fitting, 3 or 4, placed cross-ways in the bosom of the leaves; somewhat compressed, with a toothed ridge on each side, and an awl-shaped termination, giving them some resemblance to a bird's claw. *Mr. Woodward.*

Horned Pondweed.—Ditches and stagnant waters. [Ditches near Bungay, Suffolk. *Mr. Woodward.*] A. July.

β *St.*—Larger. Tip with 4 cells. *Seed-buds* and *summits* entire. *Seed-vessels* toothed along the ridge. *Mich.*

Mich. 34. 1.

Root of the thickness of the stem, with lateral, very slender, short fibres shooting into the mud. *Stem* floating, jointed, forked, solid; branches very long, some of the joints without leaves, or only a sheathing scale. *Leaves* strap-shaped, flat, very entire, smooth, embracing the stem, 2 or 3 at each joint. *Flowers* from the bosom of the leaves, throughout the whole length of the stem, opposite, one with chives on one side, and one with pointals on the other. **FLOWER WITH THE CHIVE.** *Empal.* none, unless some scattered membranaceous sheaths involving the flowers. *Chive* as long again as the flower with pointals. *Thread* thread-like. *Tip* blunt at the end, green, fleshy, somewhat 4-cornered, with 4 cells. *Dust* white, globular, somewhat angular. **FLOWER WITH POINTALS** on the upper part of the stem near the flower with the chive, on the lower part of the stem opposite to it. *Empal. common*, the same as in the flower with the chive; *cup* membranaceous; teeth just perceptible, involving the seed-bud. *Pointals* longer than the em-palement, sometimes 5. *Seed-buds* inversely egg-shaped, shining. *Summits* membranaceous, target-shaped, concave, flat, expanding outwards, 6 or 8 times as broad as the shafts. *Seed-vessel* a dry berry (*Bacca ficca*?) * oblong, compressed, with 2 keels, tapering to a point,

* As in *Galium* and *Crambe*. But the seed-vessels of these plants do not accord with the definitions either of Capsule or Berry. They are "dry hollow seed-vessels not opening in a determinate manner." Might not the term *Conceptaculum* be adopted to express it, Linnaeus having rejected it from its former acceptance, and substituted *Folliculus* in its room. *St.*

point, futures wrinkled. *Seeds* oblong, round, and rounded at the ends, somewhat bowed. ST.

Brooks and pools near Worcester.

[Sept. ST.]

1127. CHA'RA. Stone-wort.

F. *Fertile Flowers.*

EMPAL. *Cup*, leaves 4; awl-shaped; upright; permanent; the 2 *outer* ones opposite, and longer than the other 2.

BLOSS. none.

POINT. *Seed-bud* turban-shaped. *Shaft* none. *Summit* with 5 clefts; oblong; deciduous.

S. VESS. The *Coat* egg-shaped; of 1 cell; adhering to the feed.

SEED single; egg-shaped; marked with spiral lines.

B. *Barren Flower* at the base of the seed-bud, on the outward side of the empalement.

EMPAL. *Cup* as above.

BLOSS. none.

CHIVE. *Threads* none. *Tip* globular, placed before and below the seed-bud, without the empalement.

ESS. CHAR. B. *Empal.* o. *Blofs.* o. *Tip* placed below the seed-bud.

F. *Empal.* leaves 4. *Blofs.* o. *Summit* with 5 clefts. *Seed* 1.

CHA'RA *tomento'sa*. Prickles on the stem egg-brittle shaped.—

H. ox. xv. 4. 9.—*Pluk.* 29. 4, *cop.* in *Brit. herb.* 74; no appearance of prickles on the stem.

Plant always flesh-coloured when alive, but when dry becomes ash coloured. *Stem* twisted. LINN.—Plant brittle and gritty in the mouth. *Root* fibrous.

Ditches and pools. Peat ditches in Lancashire and Westmoreland, common. [In the rivulet that runs from Malham Tarn before it sinks into the ground. Mr. WOOD.] A. June—Oct.

CHA'RA *vulgar'is*. Stems smooth. Leaves toothed common on the inner side.—

C. B. pr. 25, *repr.* in *th.* 251, *cop.* in *Park.* 1201. 10.—*J. B.* iii. 731. 2.—(*Fl. dan.* 150 is *Hypochæris radicata*. *C. vulgaris* is not yet figured in that work.)

Berry oblong, containing several seeds. WEIS.—Stem thread-shaped, but little branched, 6 to 9 inches long, flexible. Leaves thread-shaped, tapering, but just thinner than the stem, in whorls, expanding, mostly as long as the joints of the stem, 6 in a whorl; jointed, the knots with prickles and often fructifications on the inside. Flowers in various dispositions (polygamia) some with chives and pointals, others with only chives, and in different plants, sitting, both tawny and white in the same plant, on the inner side of the leaves towards their base, 2 or 3 on a leaf, numerous on the upper whorls, distinct. Empal. leaves bristle-shaped, the 2 outer nearly twice as long. Tip brownish, orange, pulpy, inserted at the base of the seed-bud, and projecting as it were from out of the empalement, it evidently adhering to the base of the seed-bud and being separable with it; unchanged in its form and none burst, in numbers which I examined, from whence some might be induced to suspect it to be rather a Honey-cup. Seed-vessel of 1 cell, of the same colour with the tip, and twice or thrice as large, tapering and greenish towards the end, which is crowned with 5 teeth, mostly shorter, but sometimes longer than the empalement. Seeds very numerous, and very minute, yellowish or white. In one plant I found only tips, but with empalements as in the flowers with both chives and pointals. Nearly allied to *Hippuris*. ST.—Whole plant yellowish or reddish green. Flowers in the divisions of the stem.—Green when fresh, and extremely foetid; glaucous when dry, and very brittle. Leaves sometimes 10 or 12 in a whorl. Mr. WOODWARD.

Stinking Water Horse-tail.—Ditches and pools. [Marle pit near Stafford, where water had stagnated. ST.] A. July, Aug.

β Smaller. HUDS.

Stems and leaves very slender. Seeds (meaning tips and capsules) small, brown, shining, lying naked on the joints of the leaves. R. syn.—From this description I suspect it to be rather *C. flexilis*. ST.

Sir P. Carteret's fish-ponds in Jersey. In a gutter in Peckham Fields, not in the great ditches. R. syn.

prickly CHA'RA hispida. Prickles on the stem, hair-like, crowded.—

Fl. dan. 154.—Fluk. 193. 6.

Whitish or pale green when fresh. Prickles often bent down. LINN.—Plant covered with a stony crust, whence its grittiness between the teeth, pale green, when dried ash-coloured, and when dead, white. Root, fibres nearly simple, hair-like, long, transparent, white, stiffish, knotted; knots rigid with small fibres. Stems 4 to 8 inches long, forked, zigzag, twisted, scored, rough, cylindrical,

drical, hollow, jointed; joints of an equal thickness; knots swollen, somewhat flexible, towards the end, as also the young shoots, rough with prickles; prickles thread-needle-shaped, scattered, falling off, those near the top of the joint bent down, those below expanding or upright. *Leaves* cylindrical, jointed; joints 2 or 3, the lower similar to the stem, the upper smooth, 6 to 9 in a whorl, slightly expanding or upright, at length falling off; the younger in wreathed whorls, surrounded here and there with upright prickles in whorls. *Fructification*, none visible, unless a yellow globule, possibly a tip. That the above observations, or those inserted under *C. vulgaris*, belong to those species, I am not absolutely certain, having mislaid one of the specimens, but they were compared and described together. *ST.*—Plant glaucous. *Stem* twisted spirally, its lower part and branches and lower leaves frequently naked; upper part thick set with prickles. *Leaves* 8 to 10 in a whorl. *Prickles* in bundles, at short distances on the upper side of the leaves, resembling half whorls. Not so foetid as the *C. vulgaris*. *MR. WOODWARD.*—Whole plant with a strong scent of garlick, green. *Stem* branched. *Leaves* 8 or 10 in a whorl, prickly. *Seed-bud* egg-shaped, of a dull pale yellow. *Summits* dirty green. *Tip* orange-coloured. *WITH.*

Ditches and pools, in Yorkshire, Lancash. and Westmoreland. [Turf bogs, Ellingham, Norfolk. *MR. WOODW.*—At the bottom of a spring in a meadow near Gayton, Staffordsh. *ST.*] June—Oct.

CHA'RA flexilis. Joints of the stem without prickles, smooth semi-transparent, broader upwards. *LINN.*—Stem transparent, without prickles, *SCHMIDEL*. *HUDS.*—3-forked. *HUDS.*—*Joints of the stem of an equal thickness the whole length.* *SCHMIDEL*.

Schmidel 14.

Roots hair-like, whitish. *Stems* 1 to 2 feet long, floating under water, but near the surface, thread-shaped, smooth, and covered not as the rest of this genus, with a crust, but with a thin green rind, hollow, filled with a slightly viscid water. *Leaves* in whorls, which, towards the root, are 2 inches and upwards from each other, towards the end from 1 to $\frac{1}{2}$ an inch; of the same structure with the stem, when fully grown from 1 to $1\frac{1}{2}$ inch long, somewhat tapering at the point, mostly forked at about 2-3ds of their length, the segments awl-shaped, with a slight curvature or contraction above the insertion of the fructifications, but almost always 11 or more simple in each whorl. *Fructifications* naked, on the upper whorls, sometimes on all the leaves on the divided leaves at the fork, and on the simple leaves about the same distance from the

bafe. *Empalement* none, not even prickles as in other species. *Tip* always fingle, fometimes folitary, but moftly with 2 feed-buds, generally between them, but where only 1 feed-bud fometimes on one or the other fide, or above it, never below, as in the other fpecies, as far as I have hitherto obferved; when firft appearing, white or ftraw-coloured, as it advances pale yellow, becoming of a wax-like fubftance, when ripe of a reddifh faffron colour, and at laft brown, for the greater part hollow within, not divided into cells, but containing fome pulp intermixed with very tender fibres or membranes, and fome mealy grains of a faffron colour; never opening fpontaneoufly as far as I have obferved; gradually fhri-velling, rotting and wafing away. *Seed-bud* marked with fpiral lines, whitifh green, nearly transparent, at length becoming opaque, and of a yellowifh green, and afterwards fomewhat greener. *Seed-veffel* oval, fomewhat tapering towards the point; the coat thinifh, compofed as it were of 5 fegments rolled fpirally round and terminating in the fummits. *Summits* 5, roundifh, with a hollow between them. *Nucleus* oval or oblong, white, covered with a very thin membrane, not marked with fpiral lines, full within of very white transparent globules, fome fpherical, others a little compreffed, deffructible by preffure, not wrinkled; whether to be confidered as feeds I do not determine. To be referred to the order of *Algæ*, in which the veficular ftructure is common. SCHMIDEL.—My obfervations on *C. vulgaris* correffpond in general with the above, and I may add that the *tip*, in its œconomy, if I may fo exprefs myfelf, accords with that of *Ophrys* and the *Orchideæ*. ST.

Ponds, ditches, and bogs. Ponds about Henley, not far from Ipffwich. In a bog where the flinking fpa empties itfelf near Knareffborough. *R. fyn.*—Salt water ditches near Hornfey. HUDS.—Loch Lomond. PARSONS.—Hill-Loch on Craig Chaillech Breadalbane, and at Comrie 4 miles from Crief. MR. STUART.

A. June—Oft.

Order II.

DIANDRIA; II. CHIVES.

1130. LEM'NA. Duck-meat.

B. Barren Flowers.

EMPAL. Leaf 1; circular; opening at the side; obliquely dilated outwardly; blunt; expanding; depressed; large; entire.

BLOSS. none.

CHIVES. Threads 2; awl-shaped; crooked; as long as the cup. Tips double; globular.

POINT. Seed-bud egg-shaped. Shaft short. Summit indistinct.

S. VESS. barren.

F. Fertile Flowers.

EMPAL. Cup as above.

BLOSS. none.

POINT. Seed-bud somewhat egg-shaped. Shaft short; permanent. Summit simple.

S. VESS. Capsule globular, with a point at the end; and 1 cell.

SEEDS several; oblong; sharp at each end; nearly as long as the capsule; scored on one side.

ESS. CHAR. B. Empal. 1 leaf. Bloss. 0.

F. Empal. 1 leaf. Bloss. 0. Shaft 1. Caps. 1 cell.

OBS. If the pointals in the B. flowers had been perfect and produced perfect seeds, this genus must have been referred to the 23d class.

LEM'NA *triful'ca*. Leaves on leaf-stalks, spear-ivy-leaved shaped.—

Mich. 11. 5.—J. B. iii. 786. 1.—Lob. ic. ii. 36. 1, repr. in Ger. em. 830. 2, and cop. in Park. 1216. 9, and Brit. herb. 61. 2.—Ger. 681. 2.

Stems flattened and proliferous; crossing each other, thus resembling in its mode of growth the *Cactus Opuntia*, the Indian Fig. LINN.—Leaf-stalks issuing from the edge of another leaf, from a fissure parallel to the sides of the leaf. WITH.

Ditches and stagnant waters.

P. June—Sept.

leaf LEM'NA *mi'nor*.* Leaves fitting, flattish on both sides. Roots solitary.—

Ray 4. 1, at p. 150, *cop. in Brit. herb.* 60.—Mich. 11. 3, *Lenticularia*.—Vaill. 20. 3.—Blackw. 380.—Gars. 336.—Trag. 690, *on the surface of the water*.—Dod. 587. 1, *repr. in Lob. obs.* 643. 1; *ic.* ii. 249. 1, *Ger. em.* 829. 1, *and cop. in Park.* 1262. 1, *and imitated in Ger.* 680.—Matth. 1115.—J. B. iii. 773. 2.

Flowers every year during the dog days. LINN.

Greeds. St.—Pools.

A. June—Sept.

gibbous LEM'NA *gib'ba*. Leaves fitting, hemispherical underneath. Roots solitary.

Mich. 11. 1, *Lenticula*.—J. B. iii. 773. 3.—(Mich. 11. 2, *in syst. pl. fl. angl. and in the text of Mich. gen. p.* 15, *is an error of the press.*)

Micheli's description of the flowers found to be accurate by Messrs. Ehrhart and Grauer. Capsule with 2 cells, containing 2 seeds, somewhat compressed, and a little depressed in the middle, more globular when fuller advanced. WIGGERS.—It is improperly considered as a variety of *L. minor*. RELB.—Leaves divided within into a number of membranaceous cells; the young ones proceeding from the edges of the old ones. ST.—Differs from the *L. minor* in having the leaves inversely egg-shaped, narrowest where they are joined together, the upper surface slightly convex and generally tinged with purple; the under surface very convex, white, of a reticulated spongy appearance, and filled with water, something resembling the internal structure of *Scirpus lacustris*, but not so regular. Mr. Woodw.—Roots thread-shaped, from the centre of the under side of the leaf. Leaves 3, 4, or 5 together, one growing out of the edge of the other, oval, convex also on the upper side, the under side porous, resembling pith. WITH.

L. minor gibba β HUDS.

Ditches and ponds. [Lower Bishop's pool, Northwick, near Worcester, and in a pool near the East side of Malvern Chace, Worcestershire. Sept. 3, 1776. ST.]

A. July, Aug.

greater LEM'NA *polyrhi'za*. Leaves fitting. Roots crowded.—

Ray 4. 2, at p. 150, *cop. in Brit. herb.* 61. 1.—Vaill. 20. 2.—Mich. 11. 1, *Lenticularia*.

* Mr. Hudson abridges the character to "leaves fitting, roots solitary," comprehending *L. gibba* as a variety. ST.

Float on the surface of the water on the appearance of the swallows, and sink under water when they disappear with us.

LINN.—Leaves green above, purple underneath. WITH.

Ditches.

A. May—Sept.

Ducks are exceedingly fond of all the species. LINN. as are also geese.

Order III.

TRIANDRIA; III. CHIVES.

1131. TY'PHA. Cat's-tail.

B. Barren Flowers numerous; forming a catkin at the end of the straw.

EMPAL. Catkin, common; cylindrical; very closely set; consisting of individual Cups with 3 leaves; bristle-shaped.

BLOSS. none.

CHIVES. Threads 3; hair-like; as long as the cup. Tips oblong; pendant.

F. Fertile Flowers numerous; set exceedingly close; forming a catkin, which surrounds the straw.

EMPAL. Hairs down-like.

BLOSS. none.

POINT. Seed-bud fitting on a bristle; egg-shaped. Shaft awl-shaped. Summit hair-like; permanent.

S. VESS. none. Fruit very numerous, and forming a cylinder.

SEED single; egg-shaped; furnished with a shaft, on a bristle. Feather hair-like; fixed to the bristle which supports the seed, as long as the pointal.

ESS. CHAR. B. Catkin cylindrical. Empal. obscure, with 3 leaves. Bloss. o.

F. Catkin cylindrical, below the flowers with chives. Empal. with a hair-like wool. Bloss. o. Seed 1; on a hair-like down.

TY'PHA latifolia. Leaves somewhat sword-shaped. great
The pikes of fertile and barren flowers near together.—

Curt.

Curt. iii. 29.—Fuchf. 823, cop. in *J. B.* ii. 527. 3.—*H. ox.* viii. 13. row 3. 1.—*Fl. dan.* 645.—*Lonic.* i. 174. 1.—*Matth.* 863.—*Ger.* 42.—*Trag.* 681.—*Dod.* 604, repr. in *Lob. obs.* 42. 1; *ic.* i. 81. 1, *Ger. em.* 46.—*Lonic.* i. 173. 1. b.—*Park.* 1204. 1.—*J. B.* ii. 527. 1 and 2, only leaves.

Sheaths 2, falling off; 1 at the base, and the other about the middle of the barren spike. LINN.—*Barren spikes* dark brown. Besides the 2 sheaths described by Linnæus, there is frequently a 3d, smaller, placed between the middle and top of the barren spike, which soon withers and falls off. MR. WOODWARD.

Great Cat's-tail. Reed-mace.

Banks of rivers and fish ponds, and in marshes. P. July.

small TY'PHA *angustifolia*. Leaves semi-cylindrical. The spikes of fertile and of barren flowers distant, LINN. rather distinct. ST.

Curt. iii. 29.—*Fl. dan.* 815.—*H. ox.* viii. 13. row 3. 2.—*Park.* 1204. 2.—(Fuchf. 822, rather *T. latifolia*, the spike being broader than the leaves.)

Leaves much narrower than those of *T. latifolia*. *Spikes* slenderer, the barren one distant from the other about an inch. CURT. RELHAN.—*Leaves* do not exceed one third the breadth of the preceding species, the spike and spike-stalk much more slender, tho' the plant grows as tall and as firm as the other. The fertile and barren spikes generally about 1 inch asunder. MR. WOODWARD. *Leaves* sheathing the stem, semi-cylindrical below, flat and strap-shaped towards the end. WITH.

Ditches and ponds. [Clay pits in Norfolk and Suffolk, frequent. MR. WOODWARD.] P. July.

Cows eat it. Swine refuse it.

β When growing among rocks, and its roots being confined, it becomes smaller, but its spikes more numerous. LINN.

Lob. adv. 41, repr. in *ic.* i. 81.—*J. B.* ii. 540.

Hounslow Heath. R. syn.

1132. SPARGA'NIUM. Bur-weed.*

B. *Barren Flowers numerous; collected into a little head.*

EMPAL. *Common Catkin* roundish; tiled very closely on every side; consisting of *proper Cups* with 3 leaves; narrow; deciduous.

BLOSS. none.

CHIVES. *Threads* 3; hair-like; as long as the cup. *Tips* oblong.

F. *Fertile Flowers.*

EMPAL. as above. *Common Receptacle* roundish.

BLOSS. none.

POINT. *Seed-bud* egg-shaped; ending in a short awl-shaped *Shaft*. *Summits* 2; sharp; permanent.

S. VESS. not very pulpy; turban-shaped, but terminated by a point; angular beneath.

SEEDS. *Nuts* 2; hard as bone; oblong egg-shaped; angular.

ESS. CHAR. B. *Catkin* roundish. *Empalement* with 3 leaves. *Bloss.* o.

F. *Catkin* roundish. *Empalement* with 3 leaves. *Bloss.* o. *Summit* cloven. *Stone fruit* juiceless; with 1 seed.

OBS. The seed in some with 1 cell, in others with 2, TOURN. quoted by Linnæus—meaning, probably, in some individuals, not species, Pollich describing the *S. erectum* with 1 seed, Leers mostly 1, and Curtis 2. ST.

SPARGA'NIUM *erectum*. Leaves upright, greater 3-square, LINN.—sword-shaped.† Stem branched. HUDS.—Leaves triangular at the base, the sides concave. Fruit-stalks branched. CURT.—Fruit-stalks with many flowers, from the bosom of the leaves. ST.‡

* *Bur-reed* would seem to be a species of Reed (*Arundo*.) ST.

† This word seems an unnecessary addition, it equally belonging to both species. ST.

‡ *Pedunculis multifloris axillaribus*. The upper part of the stem is branched, but the fruit-stalks are simple, tho' supporting many sitting heads. More strictly speaking the flowers are in terminating and lateral spikes. ST.

Curt. v. 58, *S. ramosum*.—*Leers* 13. 11, a branch.—*H. ox.* viii. 13. row 2. 1.—*C. B. th.* 228.—*Dod.* 601. 2, repr. in *Lob. obs.* 41. 3; *ic.* i. 80. 1, *Ger. em.* 45. 1, and cop. in *Park.* 1205. 1, and *Pet.* 72. 9.—*Cam. epit.* 732.—*J. B.* ii. 541. 1.—*Matth.* 990.—*Ger.* 41. 1.—(*Trag.* 677. 1, cop. in *Lonic.* i. 173. 3, is a species of *Carex*.)

What is most commonly met with is about a foot high. The largest plant I ever saw of it was nearly of the height of a man. Whether these are specifically different should be examined. *LINN.*—*Leaves* flat towards the end. *Threads* longer than the empalement.—*Fertile Flowers:* *Empal.* leaves strap-shaped, and channelled at the base, circular, concave and fleshy above. *WITH.*

Sparganium ramosum. HUDS. CURT.

Ditches, marshes, and banks of rivers.

P. July.

Horses and Swine eat it. Cows are not fond of it. Sheep and Goats refuse it.

lesser SPARGA'NIUM *simples*. Leaves sword-shaped, flat. Stem simple. HUDS.—Leaves triangular at the base, the sides flat. Fruit-stalks simple. CURT.—Leaves 3-square at the base. Mr. WOODW.*—Fruit-stalks with 1 flower, leafless at the base. ST.†

Curt. v. 58.—*Dod.* 601. 3, repr. in *Lob. obs.* 41. 4; *ic.* i. 80. 2, *Ger. em.* 45. 2, and cop. in *Park.* 1206. 2, *J. B.* ii. 541. 2, *Ger.* 41. 2, and *Pet.* 72. 10, (*Fl. dan.* 260, is *S. natans*,) and the spike again in *Park.* 1205. 2, in the lowermost corner; and imitated in *H. ox.* viii. 13. row 2. 2.

Stem seldom one fourth so high as that of *S. erectum*. Leaves inclining more to yellow, the 2 under sides near the base quite flat, so that when the leaf is cut transversely the section is a triangle with nearly plain sides. Fruit-stalks sometimes more than an inch long. Heads yellow before they blow, larger in proportion than those of *S. erectum*. CURT.—Heads, the lowermost on fruit-stalks, mostly 2, proceeding from the space between the leaves, sometimes nearer to that below, and sometimes to that above, the lowermost sometimes 3 inches long; those above sitting. ST.

Marshy places, and sides of pools, particularly such as one finds on heaths, and have been old gravel pits.

P. July.

* Foliis basi triquetris. Mr. WOODWARD.

† Pedunculis unifloris, basi aphyllis. ST.

SPARGA'NIUM *na'tans*. Leaves drooping, flat. *floating*
 LINN.—Fruit-stalks with 1 flower, from the bosom of the
 leaves. ST.*

Fl. dan. 260.—*Pet.* 72. 11.

In marshes it is a small tender plant with upright or trailing leaves; but in lakes its leaves float to a fathom and more in length, appearing quite like a different plant. LINN.—The flowering stem very slender, not rising more than 6 inches above the water; undivided; supporting a few balls of sitting flowers, and those not larger than a pea. Leaves flat, floating on the water to a considerable length. Mr. WOODWARD.

Sparganium simplex natans β HUDS.

Pools, lakes, and slow rivers about Norwich. Llanberys, and in Yorkshire and Westmoreland. [St. Faith's Newton. Mr. PITCHFORD.] P. July.

1137. CA'REX. Seg.

B. *Barren Flowers forming a spike.*

EMPAL. Catkin oblong; tiled; consisting of Scales, each including a single flower; spear-shaped; sharp; concave; permanent.

BLOSS. none.

CHIVES. Threads 3; bristle-shaped; upright; longer than the inclosing scale. Tips upright; long; strap-shaped.

F. *Fertile Flowers the same, but sometimes on distinct plants.*

EMPAL. Catkin as above.

BLOSS. Petals none.

Honey-cup blown up; oblong egg-shaped; with 2 or 3 teeth at the end; contracted towards the upper part; mouth open; permanent.

POINT. Seed-bud 3-cornered; within the honey-cup. Shaft very short. Summits 3 or 2; awl-shaped; bent inwards; long; tapering; downy.

S. VESS. none. The *Honey-cup* enlarging contains the seed.

SEEDS single; egg-shaped; pointed; 3-cornered; one of the angles generally smaller.

ESS. CHAR. B. Catkin tiled. Empal. 1 leaf. Bloss. 0.

F. Catkin tiled. Empal. 1 leaf. Bloss. 0. *Honey-cup* inflated, with 2 teeth. Summits 3. Seed 3-square, within the honey-cup.

* Pedunculis unifloris, axillaribus. ST.

Obs. In some species the two kinds of flowers are found upon the same spike; but in others they are upon different spikes. LINN.—(See the Plate of Grasses.)

* Spike single, simple. LINN.—Shaft cloven. LEERS. MR. WOODW.—Seeds convex on one side, flat on the other, LEERS, and the same in the next division.

† *Carex panica* β MR. WOODWARD. ST.

small CA'REX *dioica*. Spike simple. The flowers with only chives and the flowers with only pointals on distinct plants.—

Fl. dan. 369.—H. ox. viii. 12. 22, plant with only chives.—ib. 36, plant with only pointals.—Scheuchz. 11. 9 and 10.—(Mich. 32. 1, barren plant; 2, fertile plant.)

Straw a hand's breadth high. Leaves bristle-shaped. Barren spike strap-shaped, half an inch long; fertile spike egg-shaped, one fourth of an inch long. LYONS.—Leaves not more than half as long as the stem. Fertile plant taller than the barren one. Spike compact, tiled. Capsules not expanding, slightly ferrated towards the upper part. Shaft short. Summits bent back. MR. WOODW.—Leaves and straw 3-cornered.

Turf bogs. [Meadows, Marham, Norfolk. MR. CROWE.—Boggy meadows, near Bungay, Suffolk. MR. WOODWARD.]

P. June, July.

round-headed CA'REX *capitata*. Spike simple, egg-shaped, with fertile and barren flowers; the barren flowers forming the upper part. Capsules between tiled and open.—

(H. ox. viii. 12. 36.—Fl. dan. 372.—Mich. 32. 2, are referred to by Linnaeus, but Fl. dan. 372, from the hairs at the base of the seed-bud should seem to be a *Scirpus*; and in H. ox. and Mich. the spikes are cylindrical instead of egg-shaped, and are fertile plants of *C. dioica*, in which opinion I am since confirmed by Mr. Woodward.)

Very similar to *C. dioica*, but the spike exactly egg-shaped, and not cylindrical. LINN.—I suspect that the plants which have been hitherto discovered in Great Britain, have been only fertile individuals of *C. dioica*. MR. WOODWARD.

Turfy bogs. Marshy places near Hinton and Feversham, Cambridgeshire. Sherley Common, near Croydon. P. June.

flea CA'REX *pulicaris*. Spike simple, with fertile and barren flowers; the barren flowers forming the upper part. Capsules straddling, bent back.—

Leers

Leers 14. 1.—*H. ox.* viii. 12. 21.—*Mich.* 33. 1.—*Pluk.* 34. 10.
—*Fl. dan.* 166, in flower.—*Scheuchz.* 11. 9, in flower, 10, in fruit; a. b. c. parts of fructification.

Straw cylindrical, flattish on one side. Barren flowers falling off when out of blossom. Capsules pointed, when bent back give the straw the appearance of a different plant, bearing no small resemblance to a harpoon. LINN.—Straw naked, 6 to 18 inches high. Leaves bristle-shaped, bright green, in tufts, half as long as the straw. Spike, the barren part slender, closely tiled. Scales pale brown, membranaceous at the edge. Barren Flowers: Scales somewhat oval. Chives mostly 3. Fertile Flowers: Scales broad at the base, embracing the seed-bud, tapering to a point. Shaft extending beyond the capsule. Summits bent back. Capsules longer than the scales, at first pressed to, afterwards expanding, at last bent back, in which state shining brown, spear-shaped both ways, at a little distance much resembling a flea. MR. WOODWARD.

Turfy and muddy bogs. Sides of Ingleborough and other mountainous situations. CURT.—[Boggy meadows, Norfolk, and near Bungay, Suffolk. MR. WOODWARD.—Malvern Chase. MR. BALLARD. ST.] P. June.

CA'REX *pauciflora*. Spike simple, with barren and *few-flowered* fertile flowers. Fertile flowers mostly 3, at a little distance from each other, expanding; 1 barren one terminating. LIGHTFOOT.—Spike oblong, with the male flowers in the upper part. Capsules oblong, taper-pointed, open. HUDS.

Lighf. 6. 2, at p. 77.

Root branched. Straw 4 inches high, upright, triangular, leafy, scored. Root-leaves few, sword-shaped, pointed, naked; stem-leaves 2, shorter than the straw. Spike terminating, upright. Barren Flowers 2 or 3, brown; fertile flowers 3 to 5, greenish. HUDS.

Carex patula. HUDS. 402 and 657. ST.

Boggy soil half way up Goatfield mountain in the Isle of Arran, near a place where peat is dug in the ascent from Brodwick Castle. Found also by Sir Joseph Banks on the coast of Labrador. LIGHTF.—Mountainous heaths. Near Glasgow. HUDS. P. June.

** Spike composed of both fertile and barren flowers. LINN.—Summits mostly 2. MR. WOODWARD.—† *Carex atrata*.

CA'REX *incurva*. Spike conical. Spikets clustered, *curved* with barren and fertile florets, sitting. Fence none. Straw bowed in. LIGHTF.

Lighf.

Lightf. 24. 1, at p. 544.—*Scheuchz. prodr.* 4. 3, has a very close affinity to the former, and I am inclined to believe it will be found to differ only from growing in an alpine instead of a maritime situation.—What is *Fl. dan.* 432?

Deep loose sea sand at the mouth of the water of Naver, and near Skelherry in Dunrosnefs in Shetland. HOPE in *fl. scot.*

P. July, Aug.

soft CA'REX *disticha*. Spike compound, nearly 2-rowed. Spikets egg-shaped, somewhat tiled, with barren and fertile flowers. Floral-leaves longer than the spikets. Straw 3-square. HUDS.—The lower spikets remote, and as the terminating one fertile, the upper tiled and barren. ST.*

Leers 14. 2.—*Mich.* 33. 3, in fruit.—*Pluk.* 34. 7, bad.—*Park.* 1172. 4, very bad.—*Ger.* 8. 2, can hardly have been intended for it.

Spikets 12 to 20, the lower more distant, the upper tiled, egg-shaped. HUDS.—*Spike* rust-coloured, soft to the touch. RAY. ST.—*Straws* above a foot high, somewhat leafy, naked upwards, rough. *Leaves* as long as the straw. *Spike* upright, at length nodding. *Spikets* 20 or 30, sitting, oblong, taper pointed, yellowish rust-coloured, the lower more distant, alternate, the 2 lowermost and the terminating one with all the florets fertile, when ripe egg-shaped and thicker; 2 or 3 in the middle with fertile flowers and some barren ones at the end, the upper 15 to 20, crowded, with only barren flowers. *Floral-leaves*, 1 at the base of each spiket, spear-shaped, taper pointed, the 2 or 3 lowermost egg-shaped, sometimes terminating in a bristle-shaped leaf just longer than the spiket. *Scales* of the barren flowers spear-shaped, of the fertile flowers egg-shaped. *Honey-cup* rough at the edge. *Capsules* egg-shaped, taper-pointed, with sharp edges, cloven at the end. LEERS. ST.—Resembles *C. leporina* in habit. *Straw* usually taller, 3-square, angles more acute. *Spike* longer. *Spikets* more numerous, smaller, more spear-shaped, sometimes found proliferous; the upper much crowded. *Floral-leaf* usually longer than the spike, not always present, and in their place broad oval spear-shaped scales, of a deeper brown than those of *C. leporina*. *Shaft* divided to the base, whereas in *C. leporina* only about 1-4th of its length. MR. WOODWARD.—*Floral-leaves* generally longer than the spiket, often shorter and sometimes longer than the spike. ST.

* Spica composita, spiculis inferioribus remotioribus cum terminali androgynis, intermediis confertis masculis. ST.

Carex arenaria, Leers n. 706. ST.

Marshes. [Near Bungay, Suffolk, frequent. Mr. WOODW.—
Boggy meadows on the side of Malvern Chase, Worcestershire.
Mr. BALLARD. ST.] P. May, June.

β HUDS.—*Carex ciurea*, which see.

CA'REX *arenaria*. Spike compound. Spikets of *sea*
fertile and barren flowers, the lowermost more remote and
with a leaf longer than the spiket. Straw 3-cornered.—

Mich. 33. 4, in fruit.—Pluk. 34. 8.—(Leers 14. 2, is *C. disticha*,
and Fl. dan. 425, a very different plant.)

Root creeping, thread-shaped, simple, horizontal, jointed, about
4 inches beneath the surface of the ground; joints rather distant,
and from each joint rises a jointed *stem*, which beneath the surface
is covered with brown sheaths, and even with the surface it sends
out many *leaves*, the outer ones short, the inner ones narrow and
as tall as the *straw*, which is naked, without knots; supporting the
spike at the end. Spike of a rust-colour, generally nodding. Spikets
egg-awl-shaped, sitting, the lower so far separate as to show the
straw. *Floral-leaves*, 1 at the base of each spiket, the lowermost
fitting, not sheathing, as long as the compound spike, those above
gradually smaller. LINN.—Root about the size of a pack-thread,
creeping in the dry sand to a great length, with a brown ragged
bark; knots about 3-4ths of an inch distant, not every one throw-
ing out leaves or fibres. *Leaves* somewhat rolled in at the edge,
in tufts arising from a brown, dry, withered sheath. *Straw* rising
from amongst the leaves. Spike 1 to 2 inches long, generally bent.
Spikets 4 to 10, oval-spear-shaped, the upper crowded, and without
floral-leaves. *Floral-leaves*, the lowermost generally shorter than
the spike, the next above, and sometimes the 2 next also, as long
as the spikets. Scales oval-spear-shaped, pointed, yellowish brown
with a green keel. Capsules spear-shaped, shorter than the scales,
convex on the upper, flat on the lower side, slightly cloven at the
end. Shaft divided as it issues from the capsule. Summits bent back.
Mr. WOODWARD.

(*C. arenaria* of Leers is *C. disticha*. ST.)

In loose moveable sand on the sea-shore. [Sea beach at Yarmouth
and Lowestoft. Mr. WOODWARD.] P. June.

CA'REX *leporina*. Spike compound. Spikets sitting, *naked*
egg-shaped, near each other, alternate, composed of
barren and fertile flowers.—

H. ox. viii. 12. 29, with a separate spike.—Scheuch. 10. 15, but the spikets larger than I have ever seen them.—Leers 14. 6.—Ger. 19. 6, cop. in *C. B.* th. 88? with a floral-leaf. Spikets too distinct and too expanding.—Lob. ic. i. 19. 2, repr. in *Ger. em.* 21. 6, and cop. in *Park.* 1267. 8, is *C. divisa*.—*Fl. dan.* 294, * is a different plant; and 371, is *C. flava*.—*Seguier* 1. 2, the figure on the left hand, is *C. præcox* of Schreb. *fficul. p.* 63, a different plant from *C. præcox* of Jacquin.)

Spikets 5 or 6. Chaff separating the florets, grey, longer than the seeds. Shafts bowed in. LINN.—Spike composed of from 3 to 7 spikets. Floral-leaf at the base of the lowermost spiket as long as the spike, falling off. HUDS.—Root matted. Straws frequently several together, leafy below, above naked, triangular. Stem-leaves alternate, sheathing, the uppermost nearly even with the stem. Spikets alternate. Floral-leaves, frequently one at the base of the lowermost spiket, nearly as long as the spiket, soon falling off; the rest similar to the scales, only broader and longer. Scales oval spear-shaped, shining, yellowish brown, with a green keel, membranaceous at the edge, the upper in each spiket longer and more pointed. Shaft extending beyond the capsule. Summits short. Capsules shorter than the scales. MR. WOODWARD.—Straw 12 to 16 inches high, hollow.

Marshes and watery places.

P. June.

great CA'REX vulpi'na. Spike more than doubly compound; least compact in the lower part. Spikets egg-shaped, congregated, composed of fertile and barren flowers, the barren flowers placed above. LINN.—Spikes compound. Spikets with fertile flowers below, and barren above, oblong, near together. Capsules diverging, forked at the end. ST.†

α Spike doubly compound. Empalements awned. ST.

Leers 14. 5.—*H. ox.* viii. 12. 24.—Mick. 33. 13. I have never seen the spikes at so great a distance from each other. It is possibly a distinct variety.—Barr. 114, seems to be a different plant.

* Not the plant, the scales being bluntly oval, the floral-leaves not at all resembling those of *C. leporina*. MR. WOODWARD.

† Spica composita, spiculis androgynis basi semineis oblongis, approximatis, capsulis divergentibus, apice furcatis; considering with Linnæus, Haller, and Scopoli, the *C. spicata* of Hudson and *C. vulpina*, as one and the same plant. ST.

Straw thick, firm. Spike thick, rough on all sides. Leaves, the sheaths terminated by a pointed tongue as in the Grasses. LINN.—Leaves bright green, set with minute teeth pointing upwards, in a thick tuft. Stems 1 to 2 feet high, 3-square, the sides somewhat concave, the angles sharp, and near the spike set with minute teeth pointing upwards. Spike, or rather panicle, short and close. Spikets short, numerous, the upper without floral-leaves or with a scale broader than the rest at the base. Floral-leaves sometimes wanting, that at the base of the lowermost spiket, stiff, triangular-awl-shaped, half embracing the stem at the base, membranaceous at the edge, the upper part green, set with minute sharp teeth, the whole turning brown as the spike ripens; those at the base of several of the lower spikets similar, but smaller. Scales similar in colour, egg-shaped, broad at the base, tapering into an awn. Barren flowers in the upper part, and the fertile flowers in the lower part of each spiket. Shaft deeply divided. Capsules obscurely triangular, cloven at the end. Mr. Woodw.—Summits 2, in all the varieties. Scop. ST.

Marshes and banks of rivers.

P. May, June.

Horses and Goats eat it. Swine refuse it.

β Spike compact. Empalements awned. ST.

Mich. 33. 14.—Mont. F. H. Scirpoides.—Lob. ic. 19. 1, repr. in Ger. em. 21. 5, and cop. in Park. 1266. 7.—Ger. 19. 5, cop. in C. B. th. 87.—J. B. ii. 497. 1.—(Fl. dan. 308, should seem to be a different plant. The lowermost spiket on a longish fruit-stalk.—Scheuch. 11. 4, is *C. elongata*.)

Spikets, the lower generally compound, with smaller ones at their base. ST.

Carex palustris media, radice fibrosa, caule exquisite triangulari, spica brevi compactiore. Mich. gen. 69.—*C. spicata*, Hudson, as it should seem at least from his character of spikes contiguous, and his reference to the above figure of Micheli, though his citation of Ray would induce one to suppose it to be variety γ. ST.

In the same situations with α.

γ Spikes less compact. Empalements pointed. ST.

Scheuchz. 11. 5.—Leers 14. 3.—H. ox. viii. 12. 27, in flower.—Barr. 20. 3, with the lowermost spike.—Mich. 33. R, last but 2 on the right hand.—(Mich. 33. 5, is referred to by Messrs. Lightfoot and Woodward, but the floral-leaf is bent back. The spike resembles Fl. dan. 303.)

Smaller than the preceding, which in many respects it very much resembles. Spikes smaller and less compact. Straws less upright. Leaves narrow, and shorter than the straw. Ray.—Leaves, the sheaths terminating on the base of the leaves, on the inner side in

a very shallow whitish membrane meeting at an acute angle on the surface of the leaf. *Spike* an inch or more, but sometimes only half an inch long, interrupted. *Spikets* very short, sitting, prickly. *Scales* tapering to a very fine point, brown, or yellowish brown, with a green line along the back. *Capsule* convex on the outer side, somewhat flattened on the inner, terminating at the end in 2 short points. SCHEUCHZ. ST.—*Floral-leaves*, the lowermost triangular, sometimes gradually tapering into an awl-shaped awn-like green leaf, of various length, either shorter than the spiket, and sometimes almost hair-like, and longer than the whole spike; the upper egg-shaped, yellowish brown, with a green keel, and ending in a short awn. *Scales* egg-shaped, whitish at the base, yellowish brown above, with a green keel, ending in a sharp point, apparently the beginning of an imperfect awn, and beset with minute points directed upwards. *Summits* 2. *Capsule* egg-shaped, yellowish brown, with sharp edges, gradually tapering to a forked point, edges beset towards the end with scattered points; points of the end straight, when ripe glossy, dark brown, somewhat flattened, and nearly equally convex on both sides. The above varieties, if even such they may be called, seem to me, what indeed Linnæus, Haller, and Scopoli, appear to have considered them, merely as it were shades of one and the same colour, readily distinguishable by their habit from other species, though scarcely separable from each other. ST.

Gramen cyperoides spicatum minus. R. syn. 424.—*Gramen cyperoides spicis minoribus, minusque compactis*. Scheuchz. 488, but he describes the shaft as cloven into 3.—*Carex canescens*. Leers n. 712, who observes, that it is very nearly allied to *C. vulpina*, and possibly a variety growing in a dry situation. ST.

spiked CA'REX *spicata*. Spikets roundish, contiguous. Capsules egg-shaped, pointed. HUDS. and LIGHTFOOT.

Mich. 33. 14.—(*Lob. ic. i. 19. 2, repr. in Ger. 21. 6, and cop. in Park. 1267. 8, is C. divisa.*)

Spike with or without a floral-leaf. HUDS. Mr. WOODWARD. ST.—*Straw* 3-square, 6 to 10 inches high. *Spike* short. *Floral-leaves* longer than the spikets. Like *C. vulpina*, but smaller in all its parts. RELHAN.—Much resembling *C. vulpina*, but smaller in every part except the florets and capsules. Agrees with it in the *floral-leaves*, *capsules*, *shaft*, and *summits*. *Scales* oval-spear-shaped, pointed, but not ending in an awn. *Spike* simple. *Spikets* fewer. Mr. WOODWARD.

Carex vulpina β and γ . ST.

Watery places, and on the banks of rivers.

P. June.
CA'REX

CA'REX *divi'sa*. Spike compound. Spikets round, *marsh*
at some little distance from each other, with barren and
fertile flowers. Floral-leaves longer than the spikets.
Capsules pointed. Straw roundish. HUDS.

Lob. ic. i. 19. 2, repr. in Ger. em. 21. 6, and cop. in Park. 1267.

8.—*J. B. ii. 497. 2.—(Ger. 19. 6, cop. in C. B. th. 83, is
C. leporina.—Fl. dan. 371, is C. flava.)*

Taller than the preceding. Leaves longer and narrower. Straw
not so evidently hollow. Spikets smaller; each supported by a floral-
leaf, which, rising above the spike, gives it a resemblance to the
straw of a rush. RAY.—Root creeping. Leaves narrow, frequently
longer than the straw. Straw $1\frac{1}{2}$ to 2 feet high, triangular. Spikets
5 or 6, the lower rather distant, the upper crowded and expanding.
Floral-leaf often considerably longer than the spike, and growing
in a line with the stem, gives the plant the appearance of a rush.
Scales oval spear-shaped, dark brown, with a green keel and long
green awn while young, but shrivelling and falling off as the spike
ripens, the whole becoming dark brown, except the edges, which
are yellowish. Shaft longer than the capsule, divided one third of
the way into 2 summits, bent back. Capsules whitish, oval, pointed
at both ends, very indistinctly triangular, or rather convex on one
side, and flat on the inner. MR. WOODWARD.

Salt marshes. Meadows near Hithe, and Colchester, Essex.
R. syn.—[Near Oakley Bridge, between Norwich and Yarmouth.
MR. CROWE.—Cley, Norfolk, next the sea. MR. WOODWARD.]

P. June, July.

CA'REX *cine'rea*. Spikets egg-oblong, sitting, composed of barren and fertile flowers. Capsules roundish
egg-shaped, converging.* *white* POLLICH. ST.

*Fl. dan. 285.—Pluk. 34. 4, said indeed by Linnæus to approach nearest
to C. loliacea, but that species is characterised as having straddling
capsules.—Leers 14. 7.—Mich. 33. 18.†*

* Pollich adds *remote*. Leers makes use of the same term, and yet, in
his figure, they can only be said to be *distinct*. The same epithet is used by
Linnæus and Pollich, in their characters of *C. elongata*, and yet Haller cha-
racterises that species, by saying, that the lowermost spikets are *remote*,
and the uppermost clustered. This induces me to believe, that both
species, if distinct ones they really are, equally vary in the above circum-
stance. ST.

† The specimen, Micheli informs us, was sent him from London by
Sherard. MR. WOODWARD.

Spikets, the lowermost distinct, of a whitish green. *Capsules* egg-shaped. HALL. ST.—Differs from *C. elongata* as follows: *Spikets* ash-coloured. *Floral-leaves* and *scales* of a whitish grey. *Capsules* upright, tiled, by no means diverging. POLLICH. ST.—*Spikets* with barren flowers towards the base. *Floral-leaves* egg-shaped, very short, whitish, with a bristle-like end. *Scales* egg-shaped, pointed. *Capsules* greyish green, small, slightly convex on both sides, pointed. LEERS. ST.

Carex disticha β HUDS.—*C. elongata*. LEERS n. 711, Gmel. tub. 281.—*C. spicis ovatis alternis, supremis se contingentibus*. Hall. hist. n. 1360.—*C. brizoides*, according to HUDSON, who refers, however, to different synonyms than those cited by LINNÆUS.—*C. canescens*, according to LIGHTFOOT and OEDER.—*Gramen cyperoides elegans spica composita molli*. Pluk. alm. p. 173. R. syn. 423. ST.

Marshy and watery places, but rather rare.

P. June.

prickly CA'REX *murica'ta*. *Spikets* somewhat egg-shaped, sitting, remote, with barren and fertile flowers. *Capsules* pointed, diverging, thorny. LINN.—Barren flowers at the base of the *spikets*. *Floral-leaves* shorter than the spike. ST.*

Scheuchz. 11. 3, a spike.—Leers 14. 8.—Fl. dan. 284, in fruit.†—Mich. 33. 11 and 9.—C. B. th. 100. 1, cop. in J. B. ii. 510. 1.—(H. ox. viii. 12. 26, and Barr. 20. 2, are *C. canescens*.—H. ox. viii. 12. 27, is *C. spicata*.—Park. 1172. 5, is more like a *Gramen*.)

Floral-leaves, the lowermost a scale, terminating in a very slender leaf, from 1 line to $\frac{1}{2}$ inch long. SCHEUCH. ST.—*Straws* when the fruit is ripe sometimes a foot high. *Spikets* with barren flowers at the base, and fertile ones above. *Capsule* egg-shaped, taper pointed. LEERS. ST.—*Straw* somewhat leafy, 3-cornered, LEERS, Mr. WOODWARD—not rough to the touch. *Leaves* on the lower part of the straw, the uppermost sometimes rising above the straw. *Spikets* seldom more than 4, at equal distances, the spaces equal to, or but little exceeding the length of the *spikets*. *Floral-leaves* frequently wanting, or in their place a scale larger than the rest at the base of each *spiket*. *Scales* oval spear-shaped, not very pointed, brown, with a green keel, membranaceous at the edge. *Shaft* divided at quitting the capsule. *Summits* 2, bent back. *Capsules* much longer than the scales, acutely pointed, at first somewhat tiled, but when ripening much straddling. Mr. WOODWARD.—

Straw

* Spiculis basi masculis, bracteis spica brevioribus. ST.

† Too large. Mr. WOODWARD.

Straw full green; corners above, microscopically ferrated; when the fruit is ripe from one half to one foot high. *Leaves* full green, microscopically ferrated at the edge, some as long as the straw. *Floral-leaves*, the lowermost generally shorter than the spiket, but sometimes as long again, and in one instance just longer than the spike. *Scales* egg-shaped, pointed, the lowermost the broadest, brownish yellow, membranaceous and whitish at the edge; keel pale green. *Capsule* yellowish brown, somewhat flatted, at first light 3-square, but really convex on both sides, and bordered, with an acute rising edge, bending inwards, and towards the end bearded with short points directed upwards; without marked with obscure lines; the end with 2 obscure teeth.

Sides of wet ditches and marshy places.

P. July.

Horses and Goats eat it.

CA'REX *remo'ta*. Spikes egg-shaped, mostly sitting, *remote* at a distance from each other, composed of fertile and barren flowers. *Floral-leaves* as tall as the straw.—

H. ox. viii. 12. 17.—*Leers* 15. 1.—*Fl. dan.* 370.—*Mich.* 33. 16 and 17.—*Pluk.* 34. 3.

Spikes very small, the lower often on short fruit-stalks. LINN.—A very elegant plant. *Stems* several together, 1 to 2 feet high, slender, weak, 3-cornered, leafy below, above the lowermost floral-leaf rough, below smooth. *Leaves* numerous, slender. *Spikes* 5 to 8, sitting, spear-shaped, the 3 or 4 lowermost in the bosom of the floral-leaves, the upper naked. *Floral-leaves*, the lowermost longer than the stem, the 2 or 3 next above gradually shorter than the lowermost. *Scales* spear-shaped, when young with a green keel, and silvery membranaceous edges, when the seeds ripening yellowish. *Shaft* divided about the point of the capsule into 2 summits. *Capsule* longer than the scales. MR. WOODWARD.—*Leaves*, edges with exceedingly fine teeth. WITN.

Moist woods and sides of wet ditches.

P. July.

CA'REX *divul'sa*. Spikets roundish, with barren grey and fertile flowers, the lower remote. *Floral-leaves* hair-like. *Capsules* pointed, upright. ST.*

* Spiculis subrotundis androgynis inferioribus remotis, bracteis capillaribus, capsulis acutis erectis. ST.

Barr. 20. 2, with the uppermost of the 2 separate spikes.—*Mich.* 33. 10.—*H. ox.* viii. 12. 26, but the floral-leaves too broad, and is said by *Linnæus* to be a tolerable resemblance of *C. loliacea*.—(*Fl. dan.* 285, is *C. cinerea*, the spikes being egg-oblong and tiled.)

Floral-leaves, that from the base of the lowermost spiket very narrow, and hair-like. *RAY*, *hist.* *Mr. Woodward*.—*Leaves* sometimes as long, or longer than the straw. *Straws* 9 inches to a foot high, slender, somewhat reclining on the ground. *Spike* long, interrupted. *Spikets* 6 or 7, small, sitting, the lower ones considerably distant. *RAY*. *Mr. Woodward*.—*Straw* 3-square. *Leaves* as long as the straw. *Spikets* roundish, pointed, the lowermost egg-shaped. *Floral-leaves*, that at the base of the lowermost spikets longer than the spiket. *Capsules* pointed. *LYONS*.—*Floral-leaves*, that at the base of the lowermost spiket, sometimes as long or longer than the spike. *Mr. Woodward*.—*Plant* deep green. *Leaves* rather stiff, bowed outwards, beset with minute points at the edge. *Straws* 8 inches to 1½ foot high, stiffish, bowed as the leaves; corners rough with minute points directed upwards. *Floral-leaves*, the lowermost in one instance strap-shaped like the stem-leaves, the upper shorter than the spikets. *Spike* very frequently, if not generally, branched at the base; the branch supporting 2 or 3 spikets, and reaching to the insertion of the next spiket above. *Scales* egg-shaped, finely pointed, ash-coloured, with a green rib, glossy, often reddish brown at the sides, white and membranaceous at the edges. *Capsules* egg-shaped, taper pointed, smooth, somewhat shining, convex without, flat on the inner side; edges sharp, beset towards the end with a few scattered points, the end cloven, a little longer than the scales, at first pale green, when ripe darkish brown. *ST*.

Carex canescens, *Huds.*—but the *C. canescens* of *Linnæus* is characterised as having bluntish capsules, and *Pollich* describes them thus: “Capsules at first upright, but expanding and diverging “as they ripen.”—*C. loliacea*, *Schreb. spieil.* 64?—*Gramen cyperoides spicatum minus, spica longa divulsa seu interrupta.* *R. syn.* 424.—(*C. canescens*, *Leers*, is *C. vulpina* γ, as is evident from the diverging capsules.—*C. canescens*, *Lightfoot*, is *C. cinerea*.) *ST*.

Moist shady places. [Common in woods and hedges in Norfolk and Suff. *Mr. Woodw.*—Also in meadows. *ST.*] *P. May, June.*

panicled CA'REX *paniculata*. Bunch compound. Spikets with barren and fertile flowers.—

Scheuch. pr. 8. 2.—*Leers* 14. 4, in fruit.—*H. ox.* viii. 12. 23.—*Mich.* 33. 7.

Stems numerous, 1 to 3, and sometimes 4 feet high, naked above, 3-square, minutely ferrated at the edge. *Root-leaves* in a thick tuft, sometimes rising higher than the stems, yellowish green, terminating in a stiff thorn-like point, minutely ferrated and cutting at the edge. *Bunch* 2 to 3 inches long, branched below, usually terminating above in a simple spike; the branches one half to 1 inch long, with numerous small roundish spikets, closely crowded. *Floral-leaves* awl-shaped, short, greenish, usually 1 at the base of the lowermost branch, and sometimes to 1 or 2 of those above. *Scales* egg-shaped, blunt at the end, deep brown, membranaceous and shining at the edges, closely embracing the capsules. *Summits* 2. *Capsules* greenish, longer than the scales, obtusely triangular, tapering to a sharp cloven point. Mr. Woodw. — *Bunch* more than doubly compound, upright, 4 inches long; the lowermost bunches open, alternate. St.

Rotten bogs, marshy and watery places. P. June.

β *Bunch* simple. HALL. POLLICH. LEERS. Mr. Woodward.

Stem 1 to 2 feet high. *Spikets*, the lower distant, the upper crowded. The colour of the scales and capsules, the foliage and stem prove it to belong to *C. paniculata*. Mr. Woodward.

Carex spica paniculata β Hall. hist. n. 1368. — *Cyperoides palustre*, *spica laxa*, minus. Scheuchz. p. 501, or rather a still more simple variety of it. Mr. Woodward.

Boggy ground with α. Mr. Woodward. (*)

*** *Spikes barren and fertile; the fertile ones fitting.* LINN. — *Shaft* cloven into 3. *Seeds* 3-square, LEERS, (and in the following divisions.)

CA'REX *fla'va*. *Spikes* crowded, nearly fitting, yellow roundish. The barren spike narrow. *Capsules* pointed, bowed back. —

Leers 15. 6. — J. B. ii. 498. 1. — C. B. th. 109. — Fl. dan. 371. —

Lob. ic. i. 15. 1, repr. in Ger. em. 17. 1, and cop. in Park. 1187. 2.

Stem 2 inches to a foot high, numerous, declining, in the smaller plants leafy up to the spike, but in the larger usually naked upwards, triangular, not rough to the touch. *Leaves* pale yellowish green. *Barren spike* closely tiled. *Scales* numerous, yellowish brown, bluntly oval, with one longer and larger, pointed and sometimes awned at the base. *Fertile spikes* 3 or 4, at first roundish, afterwards oval; scales oval-spear-shaped, yellowish brown, with a green keel and membranaceous edges; the lower on fruit-stalks, the

* *C. atrata* should seem to belong to this sub-division, but Linnæus, as Haller remarks, has placed it in a different one. St.

the upper sitting, in the small plants from the bosom of the leaves, and the lowermost sometimes almost at the root. *Floral-leaves*, in the larger plants 3 at the base of the lowermost long, expanding, those above shorter, bent back. *Capsules* short and thick, tapering to a point, pale greenish yellow. *Shaft* divided nearly to the base into 3 summits. Mr. WOODWARD.—*Fertile spike*, sometimes only 1. *Floral-leaves*, the lowermost often rising above the end of the stem. *Barren spike* with sometimes fertile flowers at the lower part. *Fertile spike*, sometimes only 1. ST.

Gramen palustre aculeatum germanicum, vel minus. Bauh. pin. 7.—*Gramen cyperoides palustre aculeatum.* H. ox. III. p. 243. ST.

Marsh hedge-hog Grass.—Marshes and wet meadows. P. June. β HUDS. Larger. R. syn.

H. ox. viii. 12. 19.

Stem sometimes $1\frac{1}{2}$ foot high. DILL. in R. syn.

Cyperoides echinatum majus. R. syn. 421.—*Gramen palustre aculeatum, italicum, majus.* BAUH. theatr. 110. (ST.)

Plentifully in a meadow near Cambridge. R. syn.

mountain CA'REX montana. Fertile spikes sitting, mostly solitary, egg-shaped, near to the barren spike. Straw naked. Capsules downy.—

Leers 16. 6.—Mich. 32. 3.—Scheuchz. 10. 8 and 9. I have not seen the plant.—(Fl. dan. 444, is *C. pilulifera*.)

When it grows luxuriantly covers wide patches of ground. *Straws* thread-like, naked, a span high. *Leaves* soft, of a yellower green than those of any of the other species; *stem-leaves* very short. *Barren spike* terminating, on a fruit-stalk, somewhat cylindrical, brown. *Fertile spike* near the fruit-stalk of the barren spike, black when ripe. *Scales* brown. *Seeds* just perceptibly hairy, hunched, straddling. LINN.—*Leaves* thread-shaped. Murr.—*Root* creeping. *Straw* upright, 3-square, leafy at the base, naked upwards. *Root-leaves* numerous; *stem-leaves* 2 or 3, strap-shaped, rough at the edge, naked, sea-green. *Floral-leaf* at the base of the lowermost spike as long as the spike. *Barren spike* oblong, blackish brown. *Fertile spikes* 2 or 3, near together, sitting, egg-shaped. *Scales* blackish purple, bluntish, naked. *Capsules* tiled, egg-shaped, 3-square, bluntish, pale, herbaceous, woolly. Habit that of *C. pilulifera*. HUDS.—*Leaves* pale green, or yellowish green, and sometimes nearly sea-green. SCHEUCH.—This reconciles the different accounts of Linnæus and Hudson. ST.

(*Carex montana*, Lightfoot, is *C. præcox*.—Reyg. ged. i. p. 224. n. 5, characterised as having smooth-seeds, must be a different plant.) ST.

Mountainous

Mountainous meadows and heaths. Near Sedberg, York-shire.
P. June.

CA'REX *tomentosa*. Fertile spikes mostly on fruit-downy stalks. Capsules nearly globular, cottony.—

Leers 15. 7.—*Scheuch.* 10. 11, at p. 457, is referred to *C. filiformis* by *Linnaeus*, but *Mr. Lightfoot* alledges that both the description and figure agree with his specimens of *C. tomentosa*. By *Haller* it is referred to *C. caespitosa*.—*Mich.* 32. 13, according to *Linnaeus*, is a better representation of it than of *C. pallescens*, to which he refers it.

It has the outward appearance of *C. panicea*. Straw 3-square. Leaves narrow. Barren spike terminating, oblong, of a palish rust-colour. Fertile spikes 2, alternate, oblong, upright, on short fruit-stalks. Floral-leaves as long as the part of the straw above their insertion. Follicles or capsules somewhat globular, or somewhat egg-shaped, hardly taper pointed, remarkably cottony, being beset with very short soft hairs. Seeds smooth, nearly globular, with a slight protuberance at the end. LINN. LIGHTF.—Barren spike dark brown. Fertile spikes fitting, at least when in flower. Capsules, before they are ripe, oval spear-shaped, cloven at the end, very downy. LIGHTFOOT.

Cyperoides angustifolium montanum, folliculis seminum villosis. SCHEUCH. 423, but our plant differs from it in the floral-leaves being longer than the spikes. LINN.

At the South end of Air Links. Dr. HOPE in fl. scot. P. July.

CA'REX *pilulifera*. Spikes terminating, crowded, pill-bearing roundish; the barren one oblong.—

H. ox. viii. 12. 16.—*Fl. dan.* 444.—*Pluk.* 91. 8.

Root-leaves soft, short, 1 or 2 longer. Spikes black; the fertile ones 3 or 4, nearly globular. Floral-leaves longer than the spikes. GUNN.—Barren spike single; fertile ones 3 or 4, fitting, near together. Capsules egg-shaped. Floral-leaf longer than all the spikes. LYONS.—Leaves in a thick tuft, bright green, the longest scarcely half as long as the stem.—Stem triangular, slender, not rough. Barren spike slender, 4 or 5 lines long, closely tiled, fitting. Scales numerous, oval spear-shaped, blunt, brown, with a green keel, membranaceous at the edge. Fertile spikes 2 to 4, globular, the lowermost somewhat distant, the rest closely crowded together. Scales obtusely oval, but taper pointed, darker than those of the barren spikes, and, when the capsules are ripe, almost black. Capsules nearly globular, tapering to a short point, with 3 obsolete angles, smooth on the inner, downy on the outer side. Shaft divided

divided almost to the base into 3 summits. *Floral-leaves* awl-shaped, that at the base of the lowermost spike nearly as long as the whole compound spike, the next above shorter. Mr. WOODW.—*Straw* somewhat ascending at the base. *Scales* of the fertile spikes egg-shaped, finely pointed; keel green, reddish brown on each side, membranaceous and whitish at the edges. *Capsule* greenish, nearly globular, but tapering to a point each way, slightly downy when viewed with a glass, particularly along the lateral angles, less so on the outer side; the lateral ribs the strongest, the inner one but just perceptible. *Seed* filling the cavity of the capsule. Sr.

Moist pastures and heaths, and moorish ground. [Bath Hills, near Bungay, Suffolk. Mr. WOODWARD.] P. June, July.

β HUDS. Larger. Spikes twice as large. Does not seem to be specifically different. DILL. in R. syn.

**** Spikes barren and fertile, the fertile ones on fruit-stalks.

black CA'REX *atrala*. Spikes with barren and fertile flowers, on fruit-stalks, when in flower upright, when in fruit pendant.—

Fl. dan. 158.—Scheuchz. 11. 1 and 2.

Root-leaves numerous, broad. *Spikes* and *empalement* brownish black. *Capsule* yellow. LINN.—*Leaves* ash-coloured sea-green, when dried yellowish green; edges rough. *Straws* smooth, clothed with leaves from $1\frac{1}{2}$ to 2 inches from the root, naked upwards. *Floral-leaves*; the lowermost about an inch long, those above gradually shorter and brownish. *Spikes* from 4 lines to half an inch long, and 2 or $2\frac{1}{2}$ lines thick. *Scales* brownish black, with a very fine line of a lighter hue running along the middle. *Capsules* growing black as they ripen, slightly compressed, taper-pointed. SCHEUCH. ST.—*Stem* triangular. *Leaves*, the upper often longer than the stem. *Floral-leaves* narrow, the lowermost embracing the stem at the base, as long as the spikes, those above shorter. *Fruit-stalks*, the lowermost long, those above gradually shorter. *Spikes* oval spear-shaped, when in flower rising nearly to the same height, the uppermost without floral-leaves, unequal, frequently 1 or 2 small ones beneath the uppermost; the upper with barren flowers at the base, the rest mostly composed of fertile flowers. *Scales* spear-shaped, black, with a brown keel, but viewed in a strong light of an extremely rich reddish brown. *Chives* 2. *Tips* long, upright, much longer than the empalement. *Summits* mostly 3, sometimes 2. Mr. WOODWARD.—*Scales* egg-oblong. *Capsules* a little longer than the empalements, brownish black, but at the very base and the edges towards the point straw-coloured, which latter parts extend beyond the edge of the empalement. Sr.

Mountains

Mountains of Wales, about Llanberis, plentifully. Highland mountains, frequent. P. June—Aug.

CA'REX digitalis. Spikes strap-shaped, upright; *fingered* the barren one shorter, and not rising so high. Floral-leaves without any green leaf. Capsules distant.—

Leers 16. 4.—*C. B. pr.* 9. 2, repr. in *th.* 48.—*Mich.* 32. 9.—*H. ox.* viii. 12. 15.—*Scheuch.* 10. 14, at p. 457.

Leaves on the stalk very short. *Barren spike* placed on the stalk, as it were below the uppermost fertile spike. *LINN.*—*Leaves* in a thick tuft. *Stems* obscurely triangular, slender, not rough, one half to one foot high, entirely naked, except some reddish brown leafy sheaths at the base. *Barren spike* half an inch long, closely tiled, from the same sheath with the uppermost fertile spike, and being shorter, over-topped by it. *Scales* numerous, yellowish brown, membranaceous and shining at the ends, and so bluntly rounded as to seem lopped. *Fertile spikes* 3 or 4, alternate, distant, about an inch long, on fruit-stalks. *Florets* alternate, distinct. *Scales* like those of the barren spikes, as long as the capsules. *Caps.* obscurely triangular, greenish at the base, yellowish brown upwards, and tapering to a blunt point. *Shaft* divided half way down into 3 summits. *Mr. WOODWARD.*

Woods and shady places. Near Bath. *Mr. SOLE.* P. May, June.

CA'REX linifolia. Spikes egg-shaped, pendant; the *brown* barren one longer, more upright. Root creeping. *LINN.*—*Spikes when in flower upright.* *Mr. WOODWARD.*

Fl. dan. 646.—*Scheuchz.* 10. 13.—*Leers* 15. 3, p. p. p. are good representations of the seed-bud and capsule, except that the neck of the capsule is represented as cloven to the base. (The panicle, &c. are a representation of what he considers as a variety, and afford no adequate idea of our plant.)—(*Fl. dan.* 443, is *C. panicea*.)

Similar in appearance to *C. atrata*, the spikes in both being black. *Leaves* narrow, strap-shaped. *Floral-leaves* brown, without a whitish line along the middle. *Shafts* 3. *LINN.*—*Root* jointed, throwing out at the joints long fibres, and tufts of leaves and stems. *Leaves* long, bright green, rough, the uppermost nearly as long as the stem. *Stems* slender, triangular, rough. *Barren spike*: *Scales* spear-shaped, the lowermost awned; yellowish brown with a green keel. *Fertile spikes* loosely tiled, on long slender fruit-stalks. *Scales* oval spear-shaped, taper pointed, of a very rich shining brown, with a yellowish green keel. *Floral-leaves*, 1 at the base of the lowermost spike, if more than 1, very slender, about an inch long. *Capsules* oval, bluntish, bright sea-green. *Summits* long.

Mr.

Mr. WOODWARD.—*Capsules* elliptical, microscopically rough with minute, blunt, very short points, lengthened out at the base into a point, rounded at the top, with a very short, cylindrical, yellowish neck, the sides of the brim rising higher than the middle and giving the appearance of 2 teeth. ST.

Gramen cyperoides spica pendula minus. BAUH. pin. 85. LINN.

Peat bogs and marshes. Yorkshire, Lancashire, Westmoreland, &c. frequent. HUDS.—Tullybanchar, half a mile West of Comrie near Crief. Mr. STUART in fl. scot. [Heydon, Norfolk. Rev. Mr. BRYANT.] P. June.

capillary CA'REX *capilla'ris*. Spikes pendant; the barren one upright; the fertile ones oblong, with the florets pointing two ways. Capsules naked, taper pointed.—

Fl. dan. 168.—Scop. 59. 1152, at ii. p. 226. *I have not seen the plant.*

Smaller, narrower and more delicate than *C. pallescens*. Straw when in flower shorter than the leaf, scarcely a finger's breadth high, with a single leaf, with 4 upright spikes at the end, 1 barren and 3 fertile; but some time after it becomes a span high, thread-like, upright, with a single sheathing leaf shorter than the stem; and when the fruit is ripe a foot in height. Spikes on fruit-stalks; the fertile ones mostly 3. Floral-leaves gradually smaller upwards, the uppermost hardly leafy. The barren and the uppermost fertile spike from the same point. Capsules brown, alternate, remote, distant, fixed to hair-like pedicles. Scales falling off when the capsules ripen. LINN.—Leaves as long as the straw, about a line in breadth. Barren spike conical. Scales blunt, silvery, and along the middle of a cinnamon colour. Capsule nearly naked. HALL.—Straw 3 inches high. Spikes 3, with seldom more than 8 flowers. Capsule, angles near the point roughish. Scop.—Straw when in flower scarcely a finger's length, at last a span long. Capsules fewer, alternate, at a little distance from each other, nearly pointing from 2 opposite lines. LEERS.

Carex capillaris α Leers n. 720, who considers this, and I think justly, as far as I who have not seen the *C. capillaris* can be a judge, to be the same plant with the *C. sylvatica* of Hudson. Above I have collected from Haller and Scopoli the circumstances in which it appears most to differ from the *sylvatica*, to enable botanists, who may have the opportunity of examining it in its place of growth, to inform us whether the *C. sylvatica* of Hudson must assume or not the name of *C. capillaris*. Haller remarks, that Scheuchzer has not noticed it. He seems to have considered the above as one species, as he describes the straw of *C. sylvatica* as varying in height from that of a span, to 2 feet and upwards. ST.

Highland

Highland mountains, as Benteskerney, Craigneulicht and Malghyrdy in Breadalbane. Mr. STUART in fl. scot. P. July, Aug.

CA'REX *pallefcens*. Spikes pendant; the barren *pale* one upright; the fertile ones egg-shaped, tiled. Capsules crowded, blunt, LINN.—hairlels.* *Fertile spikes cylindrical*. ST.—*Sometimes 2 barren spikes*. Mr. WOODWARD.

Pluk. 34. 5.—*Mich.* 32. 13.—*Leers* 15. 4.—(*H. ox.* viii. 12. 18, is *C. montana*.)

Not half so slender as *C. capillaris*. *Leaves* downy, broader than those of *C. capillaris*, those of the stem scarcely sheathing, extending beyond the end of the stem. *Fertile spikes* all on fruit-stalks, whitish, oval, tiled on all sides, not 2-rowed. *Capsules* crowded, quite blunt, by no means taper pointed. LINN.—*Stems* many, 1 to 2 feet high, triangular, roughish, leafy below, naked upwards, except that there is generally from about 1 to 2 inches below the spikes, a kind of *false floral-leaf* similar to the stem-leaves, and proceeding from a joint of the stem. *Leaves* in bundles from the root, yellowish green, the lower short, the upper nearly as long as the stem. *Floral-leaves*, the lowermost about twice as long as the spikes, those above gradually smaller. *Barren spike* $\frac{1}{2}$ to $\frac{3}{4}$ inch long, slender, closely tiled, with sometimes a single fertile flower at its base. *Scales* oval spear-shaped, yellowish brown. *Fertile spikes* 1 to 3, the lowermost on a very short slender fruit-stalk. *Scales* oval, pointed, pale yellowish brown with a green keel. *Summits* 3. *Capsules* oval, pale yellowish green, Mr. WOODWARD—quite smooth, contracted at the neck, mouth very entire. ST.

Moist meadows and pastures. [Wet woods in Norfolk, frequent, and in Sexton Wood, near Bungay, Suffolk. Mr. WOODWARD.] P. July.

CA'REX *pra'cox*. JACQ.—Spikes upright, nearly *vernal* fitting, near together; the barren one oblong, larger. Capsules downy. ST.†

Jacq. fl. 446.—*Seguier.* i. 1. 3, at p. 69.—*Lob. ic.* i. 10. 2, repr. in *Ger. em.* 22. 8, and *cop. in Park.* 1160. 8 and 9.—(*fl. dan.* 159,‡ and 403; *H. ox.* viii. 12. 11, and *Mich.* 32. 4, are different

* Capsulis glaberrimis. ST.

† Spicis erectis subsessilibus approximatis, mascula oblonga majore, capsulis pubescentibus. ST.

‡ A much stronger and larger plant than ours, with black capsules. LIGHTFOOT. ST.—Not our plant. Mr. WOODWARD.

different plants.—Scheuch. 10. 8 and 9, is *C. montana*.—Fl. dan. 444, is *C. pilulifera*.)

Leaves many, strap-shaped, pointed, very entire, somewhat channelled, embracing the stem at the base, open. *Straw* 3-square, leafless, upright, about 6 inches high. *Spikes* upright. *Scales* rust-coloured. *Barren spike* 1, as long again as the fertile ones. *Scales* blunt. *Fertile spikes* generally 2, sometimes only 1, nearly fitting, the uppermost near to the barren one, the lower rather more distant. *Scales* more pointed than those of the barren ones, and greener on the back. *Tips* straw-coloured. *Shafts* white, slightly hairy. *Seeds* oval, 3-square, when viewed in a glass downy. JACQ. ST.—*Straw* $1\frac{1}{2}$ to 7 inches high; edges beset above with soft points directed upwards. *Leaves* yellowish green, shorter than the stem, bowed back, smooth, but the younger beset at the edge with soft points directed upwards. *Scales* yellowish brown, with a green keel. *Barren spike* blunt, never with any admixture of fertile flowers. *Scales* oblong, pointed. *Fertile spikes* sometimes 3, sometimes with barren flowers at the end or base. *Scales* egg-shaped, taper pointed, finely pointed, and sometimes awn pointed. *Capsules* oblong, 3-cornered, somewhat pointed each way, especially towards the base, greenish, with a tinge of yellow; mouth rust-coloured, upright, very slightly cloven, ragged at the edge, not closing upon the shaft. ST.

Carex saxatilis, Hudson.—*C. montana*, Lightfoot, Relhan, and Murr. in syst. veg. but in *C. montana* the fertile spikes are fitting, and the leaves one half to two thirds of a line broad. See Scheuch. p. 420.—*C. globularis*, Lyons fasc. p. 52.—*C. foliis cæspitosis brevibus, spicis confertis, petiolis erectis brevibus, capsulis ovato-triquetris*, Hall. hist. n. 1381, confirmed by a specimen given me by the son of Professor Jacquin, who, I believe, had it from M. Dick, of Switzerland.—*Cyperoides vernum, caule rotundo-triquetro, spicis seminalibus densioribus binis vel ternis, squamis ferrugineis, obtuse mucronatis, et tamquam in aristulam prolongatis, capsulis turbinatis, subhirsutis, trilatis*. Mich. gen. p. 64. n. 70. Seguier i. p. 122. n. 9.—*Cyperoides alpinum, Caryophyllatæ foliis spicis tenuibus e fusco rufescentibus*. Scheuch. 433.—(*C. præcox*, Schreb. spicil. p. 63, though referred to by Jacquin, is a species with spikes consisting of barren and fertile flowers, and figured in Seguier 1. 2, the figures on the left hand side.—Hall. n. 1406, is a species with several barren spikes.) ST.

Mountainous meadows and heaths. [Dry gravelly hills, Norf. Mr. WOODWARD.—Dry pastures. ST.] P. Apr. May.

pink CA' R E X panice'a. Spikes on fruit-stalks, upright, remote; the fertile ones strap-shaped. Capsules bluntyish, inflated.—

Fl. dan. 443.—*ib.* 261, in fruit.—*Leers* 15. 5, in flower and fruit.

—*Mich.* 32. 11.—*Pluk.* 91. 7.

Capsules often affected with the *smut*, in which case they are globular, larger, black, full of a mealy powder. Almost all the other species are liable to the same disease, but in this it is as common as it is rare in the rest. *LINN.*—*Root* creeping, throwing out bundles of leaves and stems from the joints. *Stems* bluntly triangular, smooth, 12 to 18 inches high. *Leaves* smooth, sea-green, shorter than the stem. *Barren spike* terminating, more than an inch long, closely tiled. *Scales* oval, reddish brown, with membranaceous edges, and a whitish green keel. *Fertile spikes* mostly 2, upright, loosely tiled. *Fruit-stalks* long, slender, each from a joint. *Floral-leaves* sheathing, 1 at the base of each fruit-stalk, as long as the spike which belongs to it. *Flowers* alternate, many abortive. *Scales* egg-shaped, or egg-spear-shaped, brown, with a broad whitish green keel, membranaceous at the edges, not above half as long as the capsule. *Summits* 3. *Capsules* oval, bluntly pointed, whitish green, when ripe brown or black. *Mr. Woodw.*—*Spikes* round, tapering towards each end. *Capsules* oval, somewhat tapering to a point, when viewed in a microscope rough with minute points towards the end, contracted at the point; mouth entire. *ST.*

Moist meadows and pastures, [frequent in Suff. *Mr. Woodw.*]

P. June.

β *Spike* single, about 6 inches long, with barren flowers towards the end, with capsules below, resembling those of α , the lower ones distant; the empalement running out into an awl-shaped expanding floral-leaf at the base of each. *Mr. Woodward.* *ST.*

[Boggy ground at Brington, Huntingdonshire, growing among plenty of α . A single specimen. July, 1782. Near Bungay, Suff. 2 or 3 plants. 1786. *Mr. Woodward.*]

CA'REX Pseudo-Cyperus. Spikes pendant. Fruit-stalks *basilard* in pairs. *LINN.*—Spikes crowded; the barren one upright, the fertile cylindrical. Capsules awned, forked. *HUDS.* *ST.*—*Fruit-stalks* only sometimes in pairs. *Mr. Woodward.*

Dod. 339, repr. in *Lob. ic.* i. 76. 2, *Ger. em.* 29. 2, and cop. in *Park.*

1266. 4, and *C. B. th.* 85.—*J. B.* ii. 496. 3.—*H. ox.* viii. 12. 5.

Floral-leaves nearly bristle-shaped. *Capsules* when ripe bent back, awl-shaped, scored, tapering and ending in a double thorn or awn. *LINN.*—*Spikes*, 1 from the bosom of each leaf. *RAY.* *ST.*—*Stems* $1\frac{1}{2}$ to 3 feet high, leafy below, naked above, triangular, edged with sharp teeth, with a joint near the top. *Leaves* forming thick tufts, long, broad, finely toothed, edges cutting. *Floral-leaves* similar to the other leaves, the lowermost broad, often more

than a foot long, at the joint at the top of the stem, those above narrower and shorter. *Fertile spikes* from the bosom of the floral-leaves, at a small distance one above the other, sometimes 2 together, the lowermost on a long slender fruit-stalk, when in flower upright, when in fruit pendant, from 3 to 5, all rising to nearly the same height; *scales* green, awl-shaped, longer than the capsules, finely toothed at the edges, and toothed on the back. *Capsules* pale green, spear-shaped, obscurely 3-square, elegantly ribbed. *Shaft* divided into 3 *summits*, scarcely longer than the awns of the capsule. **BARREN SPIKE** terminating, 2 inches long; *scales* closely tiled, yellowish brown, terminated by a long awn, toothed like the stem, and longer than the threads. **MR. WOODWARD.**—*Fruit-stalks* thread-shaped. *Fertile spikes* pointing one way, green, rough, gradually smaller upwards, the lower longer than the fruit-stalks, the upper shorter. *Capsules* spear-egg-shaped, scored, smooth, the awns at the point nearly upright, and shorter than the capsule. *Seed* pale reddish brown, thrice as short as the honey-cup. **BARREN SPIKE** round, tapering each way, brown, somewhat shorter than the fertile ones, nearly upright; *scales* bristle-shaped, somewhat awned at the end. **ST.**

Moist shady places and banks of ditches.

P. June.

Cows, Sheep, and Goats eat it.

pendulous **CA'REX pen'dula.** Spikes nearly sitting, pendant; the barren one upright; the fertile ones cylindrical, very long. *Capsules* roundish, taper-pointed. **Huds.**—All the spikes pendant.* *Capsules oblong. Terminating spike frequently with numerous fertile flowers towards the end.* **ST.**

Curt. iii. 30, in flower.—*Barr.* 45, fertile spike in fruit.—*H. ox.* viii. 12. 4.—*Barr.* 45, the whole plant.

Straw 3 to 6 feet high, smooth. *Leaves* green; edges and ribs rough. *Barren spike* narrowing towards the base. *Fertile spikes*, the 2 uppermost thicker at the end, which parts are composed of barren flowers. *Scales* egg-spear-shaped, finely tapering to a point, with 3 ribs. *Capsules* oval-oblong, the neck contracted. **CURT.** **ST.**—*Barren spike* thickening to beyond the middle, blunt and rounded at the end. **SCHEUCH.** **ST.**—*Fertile spikes* when in flower much narrower than the barren one, when in fruit thicker at the end than at the base. *Capsules* closely tiled, except at the base, where often scattered. **MR. WOODWARD.**—*Spikes* pointing one way. *Barren spikes*, *scales* spear-shaped. *Capsules* 3-square, pointed at each end, slightly bowed back, shining, pale green, somewhat longer than

* *Spicis pendulis.* **ST.**

Cyperoides spicâ pendulâ, longiore et angustiore. Scheuch. 445. (HALL. ST.)—*C. maxima*, Scop. n. 1166. His description of the scales of the barren spike must have been taken from a plant which had been some time out of flower, and in which the scales had become ragged. ST.

P. May, June.

Seeds ripe in June, CURT. and July. ST.

Differs from *C. sylvatica*, which it is very like, in the fruit-stalks being wanting or very short. The whole plant greener. *Leaves* broad. *Spikes* 6 or 7, long, green. RAY.—*Capsules* tiled. *Scales* rather oblong, blunt. Huds.—*Leaves* green. *Barren spike* terminating, an inch or more long, closely tiled. *Fertile spikes*, from the bosom of the leaves, 4 or 5, very distant; the lower on very short fruit-stalks, the upper fitting, 2 inches long, and upwards. *Flowers* thin, irregularly scattered. *Scales* membranaceous, pale brown, with a green keel. *Capsules* 3-cornered, brownish green, ribbed, tapering regularly to a point at each end, but not taper pointed as in *C. sylvatica*. Mr. WOODWARD.—*Barren spike* with 2 perfect seeds at the end. *Scales* oblong-spear-shaped, sharp pointed, as long again as the capsules, keeled; keel beset with minute points towards the end, with a broad streak along the back, scattered with long orange dots; edges broad and membranaceous. *Fertile spikes*: *Scales* similar in texture and colour to those of the barren spikes, but egg-shaped, and nearly thrice as small. *Capsules* 3-square, hair-less, not thinning, half as long again as the empal. opaque, of a rigid texture; ribs 3 to 5 on each of the sides, whitish. *Seed* of the same shape, and nearly filling the cavity. The structure of the capsule points out its near affinity to the *C. panicea*. ST.

Slender-cared broad-leaved *Cyperus*-grasses with many spikes. R. syn.
Woods and hedges. In a lane near Black Notley, Essex. Near
Oxford. [Woods near Oxford. Mr. NEWBERRY.] P. May, June.

CA'REX *sylvatica*. Spikes on fruit-stalks, pendant; *wood*
the barren one upright; the fertile ones thread-shaped,
3 Y 2 loose,

loose, shorter than the fruit-stalks. Capsules egg-shaped, awned, forked, HUDS. SCHREB. WEBER—rather taper-pointed. MR. WOODWARD. ST.

Leers 15. 2.—H. ox. viii. 12. 9.—Fl. dan. 404.*—Park. 1172. 3.

—Scop. 59. 2, at n. 1160.†

Scales egg-shaped, tapering to a point. HUDS.—Fertile spikes often with smaller spikes at their base. HALL.—I have never observed this appearance. Root creeping. Leaves in tufts from the joints of the root, yellowish green, about one fourth of an inch wide, rough to the touch. Stems numerous, in tufts, 12 to 18 inches high, triangular, rough at the edges, leafy. Fertile spikes 4 or 5, distant, when in seed pendant, 1 to $1\frac{1}{2}$ inch long, loosely tiled. Flowers alternate. Scales oval-spear-shaped, yellowish, with a green keel. Capsules smooth, yellowish green, triangular, with obscure edges, and a beak nearly as long as the capsule, cloven at the end. Shaft divided almost to the base into 2, and sometimes into 3 summits. Barren spike terminating, about an inch long, slender, closely tiled. Scales spear-shaped, but not taper pointed, of the same colour as those of the fertile spikes. MR. WOODW.—Stem slanting, in open ground only 8 to 10 inches high, bending with a curve, 3-square, smooth, somewhat shining; angles sharp, which towards the end are roughish. Leaves strap-shaped, pointed, keeled, somewhat scored, somewhat shining underneath, alternate, nearly upright, sheathing the stem. Barren spike with sometimes an intermixture of fertile flowers, 3-square, yellowish brown, shorter than the lower fertile spikes. Scales generally spear-oblong, bluntish, sometimes with a short sharp point, and sometimes spear-shaped, whitish and membranaceous on the side, and mostly with more or less of a tinge of cinnamon colour; keel pale green, after flowering of a pale cinnamon colour, with a pale green keel. Fertile spikes pointing one way, 3 to 5, yellowish green, in one instance a small spike proceeding from the lowermost scale. Flowers somewhat expanding, in 3 directions. Fruit-stalks very slender, 3-square, rough at the angles, the lower ones twice or thrice as long as the spikes, the upper very short. Scales concave, taper-pointed, membranaceous. Capsules egg-shaped, 3-square, gradually diminishing to the mouth, hairless, mouth with 2 teeth. Shaft thread-shaped. Its pendant spikes, the pale yellow green of its leaves, and the bend of its stem, which seems to form part of

an

* Spikes too thick. LIGHTFOOT.—Both this and H. ox. indifferent, and the spikes upright. MR. WOODWARD. ST.

† Very bad, the capsules being represented without a beak, though described as having a long neck. MR. WOODWARD.

an elliptical curve, give it a very pleasing appearance, and render it one of the most elegant ornaments of our woods. ST.

C. vesicaria β LINN.—*C. capillaris* β Leers n. 720. ST.—*C. patula*, Scop. n. 1160, and Pollich. n. 896. Mr. WOODWARD.

Woods.

P. May, June.

CA'REX depauperata. CURT. cat. n. 228.

Charlton

Stem leafy. *Floral-leaves*, the uppermost rising to the height of the terminating spike. *Barren spike* single, terminating, slender, strap-shaped, 1-half to 3-4ths of an inch long, closely tiled. *Scales* numerous, oval, yellowish brown, with a green keel, and shining membranaceous edges, which are wanting in *C. sylvatica*. *Fertile spikes* about 3, distant, from the bosom of the leaves, upright, the uppermost sitting. *Fruit-stalks* slender, the lowermost 1 inch long, that above it 1-half inch long. *Scales* oval, pointed, pale brown with membranaceous edges. *Capsules* only 2 or 3 on a spike, distant, green, nearly round, much bellying, larger than any of our English species, about the size of Hemp-seed, scored with numerous ribs, much resembling those of *C. sylvatica*, tapering to a cloven point, the segments not pointed as in *C. sylvatica*, but ending in torn membranaceous margins. *Summits* 3. Mr. WOODWARD.—Discovered by Mr. CURT.

Charlton-wood, Kent. Mr. WOODWARD.

CA'REX inflata. Spikes remote, mostly on fruit-stalks, nearly upright; the barren one upright, spear-shaped. Capsules egg-shaped, tapering to a point, as long again as the empalement. HUDS.—*Barren spikes sometimes though very rarely* 2. HUDS.

Mich. 32. 5. *I have not seen the plant.*

Nearly allied to *C. distans*. HUDS.

Marthes. In Westmoreland and Yorkshire. HUDS.—and Wales. Mr. DAVIES in Fl. angl. [A botanist of N. Wales informs me, that Mr. Davies found it 9 or 10 years ago, on the side of a rivulet in the middle of Anglesea, but not in any great abundance, and only in a single spot. ST.]

P. June, July.

Meadows, pastures, and moist shady situations. P. May, June.

CA'REX distans. Spikes very remote, nearly sitting. *loose* Floral-leaf sheathing. Capsules angular, sharp-pointed.

H. ox. viii. 12. 18.

Differs as follows from *C. caespitosa*. Spikes far distant, on short fruit-stalks from the sheaths of the leaves, not nodding. *Empal.*

3 Y 3

scales

scales pointed. Capsules taper-pointed. LINN.—Spikes sometimes with barren and fertile flowers, and the lowermost sometimes altogether barren. RELH.—Stem sometimes a yard high. A species¹ subject to very great variations. CURT.—Stems 9 to 18 inches high, leafy, very obscurely triangular. Barren spike terminating, 1 to $1\frac{1}{2}$ inch long, cylindrical, but somewhat swelling in the middle, closely tiled. Scales oval, blunt, numerous, brown, with a yellowish keel. Fertile spikes very upright, pressed-to, 2 or 3, from $\frac{1}{2}$ to $1\frac{1}{2}$ inch long, the lowermost often 6 inches below the next to it, and that 3 from the next above it. Fruit-stalks slender, inclosed by the sheaths of the leaves, often almost up to the spike, whence their upright position. Scales equal to, or shorter than the capsules, oval, blunt, dark-brown, with a green keel lengthened out into a projecting point. Summits mostly 3. Capsules obscurely triangular, smooth, yellowish green, terminated in a long, somewhat downy, cloven point. Mr. WOODWARD.

Marshes. [Edge of Giggleswick Tarn, and also on dry ground near the tops of the highest mountains in Yorkshire, and a yard high, near the summit of a lofty rock in Longsledale. CURT.] P. June.

heath CA'REX recur'va. Spikes crowded, on fruit-stalks, cylindrical, somewhat pendant; the barren one terminating. Capsules tiled, bluntish, HUDS. RELH. Mr. WOODWARD. ST.—Barren spikes, sometimes 2, HUDS.—usually 2 or 3. Mr. WOODWARD.

H. ex. viii. 12. 14.*—Barr. 113. 1?—(Mich. 32. 12, is C. acuta.)

Straw upright, 3-square, naked above. Empal. bluntish, blackish brown. Capsules of a pale herbaceous colour. HUDS.—Stems sea-green, triangular, with angles rather indistinct. Leaves of the same colour as the stem. Barren spike sometimes single. Scales similar to those of C. caespitosa, but more loosely tiled. Fertile spikes, the lower on long thread-shaped fruit-stalks, hanging down, the upper on shorter. Scales oval, brown, with a green keel, which is sometimes lengthened beyond the capsule into a short awn. Summits mostly 3. Capsules loosely tiled, and not so blunt as those of C. caespitosa, green, slightly downy. Mr. WOODWARD.—Root fibrous, creeping; fibres thickish, cylindrical, whitish. Stem upright, somewhat 3-edged, but the corners rounded off, scored, roughish, half to 1 foot high. Leaves strap-shaped, pointed, keeled, scored, nearly upright, rough along the edges and keel, sheathing the stem; mouth of the sheath membranaceous, coloured; the uppermost

* Spikes too short and thick. Fruit-stalks too short. Mr. WOODWARD.

uppermost even with the top of the stem. *Spikes* round, from the bottom of the leaves, in one specimen the spike below the terminating one composed of barren and fertile flowers, the lowermost flowers chiefly barren, with fertile ones intermixed, the uppermost fertile; and in 2 specimens the 5 lowermost spikes with barren flowers at the end. *Barren spikes* 3 to 7, blackish brown, mostly fitting; the uppermost the largest; the lowermost next in size; and sometimes with fertile flowers, the middle ones as small again, crowded or opposite, with sometimes a fertile flower at the base. *Floral-leaf* a coloured oblong scale at the base of the lowermost spike; in its bosom is generally found a solitary fertile floret. *Scales* oblong, blunt, smooth, coloured, blackish brown with a whitish line running along the back, not keeled. *Threads* white. *Tips* falling off. *Fertile spikes* below the barren ones, mostly 2, between pendant and upright, mostly 6 cornered, cylindrical, much thicker than the barren ones, blackish green. *Flowers* tiled, in 6 rows. *Fruit-stalks* thread shaped, shorter than the spike, with a minute blossom of the same shape as those of the spike within the sheath of the leaf. *Scales* egg-shaped, pointed, blackish brown, with a whitish line running along it. *Blossom* inversely egg-shaped, thinly set with short pointed hairs. *Shafts* 3, very rarely 2. *Seed-vessels* inflated, inversely egg-shaped-oblong, compressed, green; mouth circular, very entire, closing upon the shaft, beset on the outer side with very short points. **ST.**—*Stem* 12 or 15 inches high, 3-cornered, scored. *Leaves* sheathing the stem, prickly along the edges and mid-rib, less so towards the base; sheaths tinged with a purplish red. *Floral-leaves* none. *Spikes* $1\frac{1}{2}$ inch long, dark tortoise-shell colour. *Honey-cup* purse-shaped, with a small coloured aperture at the top, through which the shaft passes. *Summits* 3. **WITH.**

Carex cæspitosa α Lightfoot. **ST.**

Moistish meadows. **RAY.**—Meadows, pastures and heaths. **HUDSON.**

P. May, June.

C A' R E X *cæspitosa*. Spikes upright, cylindrical, 3, *turfy* nearly fitting; the barren one terminating. *Straw* 3-square. **LINN.**—*Barren spikes* very frequently 2. **HUDSON.** Mr. **WOODWARD.** **ST.**—*Capsules* smooth. Shaft cloven into 2. **ST.** *

* *Capsulis glabris, stylo bifido.* This is said of the plant, supposed by Mr. Hudson to be the *C. cæspitosa* of Linnæus, above described by Mr. Woodward and myself, and which I believe to be the *C. acuta* α of Linnæus. **ST.**

MONOECIA TRIANDRIA.

Park. 1266. 3.—(Scheuchz. 10. 11, is *C. filiformis*.—*H. ox.* viii. 12. 14, is *C. recurva*.—*H. ox.* viii. 12. 3, is also added, with a mark of doubt, but the right hand stem is terminated by 3 barren spikes in blossom. It seems to be *C. gracilis*.)

Straw naked, exactly 3-square. Leaves narrow, long, of a pleafant green, in fuller tufts than in any of the other species. *Floral-leaves*, that at the base of the lower spike longer than the spike, that at the base of the spike above it shorter than the spike. *Fertile spikes* 2, blackish. *Capsules* yellowish, fitting, upright, blunt, egg-shaped, tiled. LINN.—Plant when growing, and especially the smaller plants, of a sea-green hue, but which disappears when brought near to the eye; for then it is clearly of a bright green. Stem exactly triangular, but not cutting. Spikes near together, at the top of the stem. Scales oval, almost black, with a green keel. Scales fimilar to those of the barren spikes, blunt. Summits 2. Capsules extremely crowded, very blunt. Mr. WOODWARD.*—Straw nearly upright, $\frac{1}{2}$ to 1 foot high and upwards, scored, in the smaller plants nearly smooth, in the larger smooth below, but above the angles are beset with minute prickles pointing upwards. Leaves keeled, sometimes longer than the straw, edges beset with minute prickles pointing upwards, with a tinge of sea-green. *Floral-leaves*, the lowermost sometimes extending beyond the terminating spike, and all sometimes longer than the spikes, gradually shortening upwards. Spikes cylindrical, all dark brown before flowering, sometimes 3, but generally 4, 2 barren and 2 fertile; or 1 barren and 3 fertile. *Barren spikes*, the terminating one 1 to $1\frac{1}{2}$ inch long, when 2 the lowermost just below the terminating one 4 times smaller. Scales oblong, blunt, tapering downwards, dark purplish brown, with a green line running along the back, which, when fully blown, turns of a pale brown. *Fertile spikes* $\frac{1}{2}$ to $1\frac{1}{2}$ inch long, the lowermost about the length of the terminating one, when ripe of a mixture of black and green, tapering towards the base. Scales oblong, fimilar in colour to those of the barren spikes, somewhat smaller. Capsule inversely egg-shaped, pointed at each end, with a very short cylindrical whitish neck closing on the shaft; 3-cornered, slightly compressed, pale green, just longer and wider than the empalement, smooth, or beset towards the neck with minute tubercles. Sr.

* After examining growing plants of this and the *C. gracilis* of Mr. Curtis, I was struck with an idea that they must surely be the same; and some time after, on seeing Mr. Pitchford, I found that the same notion had occurred to him; and on our examining the several specimens in various stages, and discoursing on the subject, we were still more and more convinced that it must be so. Mr. WOODWARD.

Carex acuta a? Linnæus, Pollich, Leers n. 723.—*Gramen cyparoides minus spicatum angustifolium*. Park. 1265. ST.

This plant, as well as the *Scirpus cæspitosus*, begins spontaneously to grow upon boggy mosses, and forming compact hillocks, affords a support for men to walk upon; so that in the course of time, the most dangerous bogs are changed into firm and useful land.

Cows, Sheep, Goats and Horses eat it.

***** Spikes barren and fertile, more than 1 barren.

† *Carex cæspitosa*.

C A' R E X *gracilis*. Barren and fertile spikes several, slender spiked somewhat thread-shaped. Summits 2, CURT.—frequently 3. Mr. WOODWARD.—Mouth of the capsule very entire. ST.*

Curt. iv. 47. †—H. ox. viii. 12. 3, a good representation of it, except that the spikes are upright, owing possibly to having been taken from a dried specimen.—J. B. ii. 494. 2, Gr. nigro-lut. 6.—(Lob. obs. 10. 2, repr. in ic. i. 11. 1, Ger. em. 12. 1. f. 2, and cop. in Park. 1266. 1, and also in C. B. th. 84, with the addition of 2 spikes, should seem rather to be *C. riparia* just coming into flower.)

Stem in watry situations 2 or 3 feet high, in meadows shorter, slenderer than that of *C. riparia*. Leaves scarcely sea-green. Spikes brownish black, in their young state remarkably pendant, so as to give it the appearance of *C. pendula*. Barren spikes generally 3, brownish black, faintly 3-cornered, the terminating one 2 inches long, the next below twice or thrice as short, the lowermost with barren and fertile flowers, longer. Scales egg-shaped, pointed, purplish black, with a green keel. Fertile spikes 3 or 4, as long as the terminating spike, nearly upright, blackish. Scales more oblong, and blunter than those of the barren spikes. Capsule oblong. CURT.—Fertile spikes in flower generally very dark brown. Scales in some plants, which agreed in all other respects with Mr. Curtis's description, as pointed as those of *C. acuta*, those of the upper fertile spikes much shorter and blunter than those of the lower. Mr. WOODWARD. ST.—Straw rough at the edges towards the top, but not cutting. Floral-leaves, the lowermost just longer than the spikes. Barren spikes mostly 4, from $1\frac{1}{2}$ to 3 inches long. Fertile spikes 3 to 4 inches long, sometimes all of them with barren flowers at the end, tapering towards the fruit-stalk, and the flowers towards the base distinct, and the lowermost at more than the distance

* *Stylis bifidis, capsulis ore integerrimis*. ST.

† Fertile spikes not sufficiently slender and bending. Mr. WOODWARD.

taunce of $\frac{1}{2}$ inch below the rest. Scales egg-oblong, or egg-spear-shaped and taper-pointed. ST.

Carex nigra verna vulgaris. Linn. fl. lapp. n. 330?—*Cyperoides angustifolium caule exquisitè triangulari, aspero, spicis floriferis praelongis, tenuioribus*, &c. Mich. p. 60. n. 40.—*Gramen cyperoides majus angustifolium*. Park. 1265. R. hist. 1293. syn. p. 417. n. 2. CURT.—*C. acuta*. Corresponds with it in the capsules being rather blunt, the shaft cloven into 2, and the uppermost of the fertile spikes having barren flowers. I consider the *C. gracilis* of Curt. and *C. caespitosa* of Huds. as varieties of the *C. acuta*. Mr. Curtis appears once to have been inclined to suppose his *gracilis* to be the *acuta* of Linn. but Mich. t. 32. f. 12. being referred to by Linn. as a good figure, seems to have led his attention from the above more essential points of resemblance, and to refer the *C. acuta* to a plant with a shaft cloven into 3.—*C. acuta* β HUDS.—*Gramen cyperoides majus angustifolium*. Scheuch. 462. ST.—I suspect, from the shaft being cloven into 2, and the egg-shaped scales of the *C. acuta*, as described in the Fl. suec. that the *C. gracilis* of Mr. Curtis may be the same plant. Indeed he seems himself to suspect it, having quoted *C. nigra verna vulgaris* of the Fl. lapp. with a mark of doubt.—*C. acuta* β Pollich? MR. WOODWARD. ST.

Edges of rivers, ponds, and ditches, and also in meadows. P. Flowers a week or 2 later than *C. riparia* and *acuta*.

acute

CA'REX *acuta*. Barren spikes more than 1; the fertile ones sitting. Capsules bluntish. LINN.—Barren spikes blunt,* with bluntish scales. Stem sharp cornered. CURT.†

Curt. iv. 47.—Lecrs 16. 1.—Mich. 32. 6—Lob. obs. 10. 2, repr. in ic. i. 11. 1, Ger. em. 12. 1. f. 2, Gram. cyperoid. and cop. in Park. 1266. 1.—Ger. 11. 1, cop. in C. B. th. 83.—(Mich. 32. 12, is referred to by Linn. but see the note † below and *C. gracilis*.)

This very variable plant, in dry meadows, is about an inch high, but in watery situations often rises to the height of 3 feet. Shaft cloven into 2, † hairy, white, shrivelling. Scales egg-shaped, brown, with a green line running along it. LINN.—Barren spikes,

1 ter-

* When young, but when out of blossom as pointed as those of *C. riparia*. CURT.

† I am inclined to believe that the *C. acuta* of Linnæus will turn out to be a different plant from that of Mr. Curtis. "In this species" says Linnæus "the shaft is cloven into 2." Lecrs asserts it to be "always cloven into 2."

1 terminating, with 2 or 3 from the sides near together. *Fertile spikes* 3, sometimes 4, the uppermost often with barren flowers in the upper part, distant, cylindrical, longer than the barren ones, sitting when in flower, when ripe on fruit-stalks, upright. *Scales* inversely egg-shaped, bay, with a rib more or less green. *Shaft* always cloven into 2. *Capsule* convex, and with 2 furrows on one side, flattish on the other, with a very short cloven point; larger than the empalement. LEERS.—*Straw* in wet situations 2 feet high and upwards, corners sharp and rough. *Leaves* 3 lines broad, edges and keel rough, sea-green, narrower than those of *C. riparia*. *Spikes* fewer and smaller than those of *C. riparia*. *Barren spikes* frequently obscurely 3-cornered, purplish black or brown, generally 3, upright, at a little distance from each other, oblong, the uppermost $1\frac{1}{2}$ inch long, the lower shorter and unequal. *Scales* egg-oblong, brownish purple, with a greenish midrib. *Fertile spikes* 2 or 3, longer and slenderer, on fruit-stalks, generally upright, frequently with barren flowers at the end. *Scales* egg-shaped, taper-pointed, the upper part edged with minute teeth. *Capsules* much smaller than those of *C. riparia*, more numerous, and no wise inflated, 3-cornered, mouth, with 2 teeth. In its strong state may be easily mistaken for *C. riparia*, and in its weak state approaches very near in point of appearance to *C. recurva*. CURT.—*Stem* sea-green. *Leaves* underneath sea-green, above yellowish green. *Fertile spikes* dark reddish brown, when ripe yellowish brown. MR. WOODWARD.—*Barren spikes* cylindrical, blunt,

In Mr. Curtis's *acuta* it is as uniformly cloven into 3, and no one could think of describing the capsules of his *acuta* as bluntish. My opinion is, that the *C. gracilis* of Mr. Curtis, and the *C. caespitosa* β of Mr. Lightfoot, are the *C. acuta ruffa* of Linnæus, and that the plant, supposed by Mr. Hudson to be the *C. caespitosa* of Linnæus, and described as such in this work, is the *C. acuta nigra* of Linnæus; that these are only variations occasioned by difference of soil, as Linnæus believes his to be, of one and the same plant; and that the *C. acuta* of Mr. Curtis is a distinct species. See *C. gracilis*. But my great aversion to the new naming of plants, induces me to acquiesce, at least for the present, in the nomenclature of Mr. Curtis, and give the following sketch of my own ideas. ST.

1. *Carex acuta*. Barren spikes more than 1, fertile ones nearly sitting. Capsules bluntish. LINN.—smooth. Summits mostly 2. ST.

α *C. acuta* α Sp. pl. Pollich.—*C. caespitosa*. Huds. and Bot. Ar. which see.

β *C. acuta* β Sp. pl. Pollich.—*C. gracilis*. Curt. and Bot. Ar. which see.

2. *Carex ruffa*? ST. Barren spikes more than 1, blunt, with bluntish scales. Stem sharp cornered. CURT.—Fertile scales pointed. Summits 3. ST.

C. acuta. CURT. and Bot. Ar. which see.

blunt, near together, that next the terminating one sometimes inserted at about 2 lines below, and the lowermost at about twice the distance below it. Fertile spikes $1\frac{1}{2}$ to $3\frac{1}{2}$ inches long, sometimes tapering towards the fruit-stalk, closely tiled. Scales egg-spear-shaped, sometimes ragged at the edge towards the point. Capsules egg-shaped, longer than the scales, dirty green, scored, when viewed in a microscope the surface covered with very minute rough points, and towards the end with sharp points directed upwards; neck short, yellowish, with 2 teeth. ST.

Carex caespitosa β Lightf.—*Cyperoides foliis caryophyllis, caule exquisite triangulari, spicis habitioribus, squamis curtes, obtusè mucronatis, capsulis turbinatis, brevibus, confertis*. Mich. gen. p. 62. CURT.—(*C. glauca*, Scop. fl. carn. n. 1157, cannot be the plant, since the capsules are described as woolly. *C. acuta*. Lightf. and Hudf. are *C. riparia*.—*Cyperoides latifolium spica ruffa sive caule triangulo*, Scheuch. 458, cannot be the *C. acuta* of Linn. as he describes the shaft cloven into 3.) ST.

In similar situations with *C. riparia*, and often together.

P. April. Seeds ripe in June and July.

great CA'REX *ripa'ria*. Barren spikes more than 1, 3-square, blackish, pointed, with awn-taper-pointed scales. Capsules somewhat inflated, with 2 horns. CURT.—Fertile spikes mostly on fruit-stalks, upright. Capsules egg-spear-shaped, awn-taper-pointed, forked. HUDS.*

Curt. iv. 47.—H. ox. viii. 12. 1.—Leers 16. 2. I. one of the smaller plants in fruit.—Mich. 32. 7, in fruit.—J. B. ii. 496. 1, cop. in. C. B. th. 54.—Park. 1267. 12.—J. B. ii. 494. 3.—Lob. obs. 10. 2, repr. in ic. i. 11. 1, Ger. em. 12. 1, f. 2, and cop. in Park. 1266. 1, and also in C. B. th. 84, with the addition of 2 spikes, seem to be the plant just coming into blossom.—(Lob. obs. 10. 2, repr. in ic. i. 11. 1, Ger. em. 12. 1, f. 2, Gram. cyperoid. and cop. in Park. 1266. 1, from the distance between the upper spikes cannot be this species, and for the same reason should seem to be the *C. acuta*.

—Of

* The epithet *blackish* should have been omitted, and the capsules can hardly be said to be inflated, when they close tight upon the seed, which occupies more than the lower half of the cavity; neither can the 2 very short points at the end be well termed horns, or the capsules described as awn-taper-pointed. The fertile spikes too are sometimes pendulous. I therefore propose the following character: Barren spikes more than 1, with awn-taper-pointed scales. Fertile spikes with awn-pointed scales. Capsules spear-egg-shaped, with 2 teeth at the point. Spicis masculis pluribus, squamis masculinis aristato-acuminatis, femineis aristatis, capsulis lanceolato-ovatis apice bidentatis. ST.

—Of Ger. 11. 1, cop. in C. B. th. 83, the same also may be said.

—Mich. 32. 6, is *C. acuta*.)

Leaves sea-green. Barren spikes 3 to 5, clustered. Scales running out into a long awn-like point. Fertile spikes often branched at the base, the uppermost sitting. Scales awned, the awns finely serrated. CURT. ST.—Stem often yellowish green. Leaves sea-green underneath, above yellowish green, as those of the stem out of flower, as coloured in the Fl. lond. Fertile spikes, when in flower pale-green, mixed with black or dark reddish brown. Mr. Woodward.—Summits 3. SCHEUCH. ST.—Barren spikes tapering each way, the terminating one from $1\frac{1}{2}$ to 3 inches long, before flowering brownish black, during flowering reddish brown, when out of flower light brown, near together, the space between the insertions of the lowermost and uppermost being seldom more than from 1 to $1\frac{1}{2}$ inch. Fertile spikes oblong-spear-shaped, tapering each way, the uppermost frequently, and sometimes all with barren flowers at the end. Capsule spear-egg-shaped, sometimes egg-spear-shaped, nearly round, or with very obscure irregular angles, thick and rigid in its texture, of a dull dirty brown, when viewed with a magnifying glass scored, smooth, without hairs or rough points; 2 short upright pointed teeth. Seed 3-square, inversely egg-shaped, filling 2-thirds of the cavity of the capsule. ST.

C. acuta? Lightf. who very judiciously doubts its being the *C. acuta* of Linn.—*C. acuta*. Huds.—*C. vesicaria* β Leers n. 724.—*Cyperoides aquaticum, maximum, foliis vix unciam latis, caule exquisitè triangulari, spicis habitioribus, erectis, squamis in aristam longius productis, capsulis oblongis, bifidis*. Mich. gen. 57. n. 10. *Cyperoides latifolium, sica rufâ, sive caule triangulo*. Scheuch. 458. ST.

Edges of rivers, ponds and ditches, also in meadows, where it is much smaller.

P. April.

Seeds ripe in June, and July. CURT.

Horses, Cows, Sheep and goats eat it.

CA'REX *vesicaria*. Barren spikes more than 1; the bladder fertile ones on fruit-stalks. Capsules inflated, taper-pointed, LINN.—egg-shaped, scored. ST.*

Fl. dan. 647.—Leers 16. 2. III.—H. ox. viii. 12. 6.—C. B. th. 84, the two spikes in fruit, (the rest of the figure is a copy of Lob. ic. i. 11. 2, which is a representation of a different species.—H. ox. viii. 12. 6, is var. γ —Mich. 32. 6 and 7, is *C. riparia*.)

* Capsulis ovatis, striatis. ST.

Floral-leaves spear-shaped, tapering to a point, the sides brownish. *Shaft*, scarcely any. * *Seed-bud* slender, tapering, and taper pointed, the point just perceptibly cloven. LINN. *fl. suec.*—*Stem* 3-square, rough. *Leaves* rough downwards. *Barren spikes* 2 and 3, bay, slender. *Fertile spikes* round, thick, closely tiled. *Scales* spear-shaped. *Capsules* scored, gradually tapering out into a long beak, not suddenly produced from a spherical to a cylindrical figure, but gradually tapering to a point. HALL ST.—*Stem* triangular, leafy, finely sawed at the edges. *Leaves* 2 lines broad, finely sawed at the edges, bright green. *Barren spikes* 1, 2 or more, strap-shaped, slender, the uppermost an inch long or more, closely tiled. *Scales* spear-shaped, yellowish brown, with membranaceous edges and a paler keel. *Fertile spikes* 2 or 3, upright, or nearly so, 1 to $1\frac{1}{2}$ inch long, oval, the uppermost sitting. *Fruit-stalks*, the lowermost from 1 to 2 inches long, the greater part inclosed in the sheath of the leaf, the 2d shorter. *Scales* spear-shaped, pointed, much narrower and somewhat shorter than the capsules, brown, with a green keel. *Summits* 3. *Capsule*: much inflated, obscurely triangular, scored, with prominent ribs, terminating in an acute cloven point. MR. WOODWARD.—*Barren spikes*, the uppermost 1 to 2 inches long, before flowering spear-shaped, finely tapering each way. *Scales* oblong-spear-shaped, not finely pointed, edges whitish, keel brownish white. *Fertile spikes* 1 to 3, when ripe expanding, greenish, when fully ripe yellowish brown, the uppermost with barren flowers at the end. *Scales* awl-spear-shaped, with 3 ribs, at first purplish brown, with a green keel, afterwards dark brown, with a pale brown keel, at length the whole pale brown. *Shaft* dividing at the mouth of the honey-cup into 3 summits. *Capsules* egg-shaped, gradually tapering; beak forked at the mouth, the forks pointed, open, nearly as long as the neck; gradually exceeding the empalement as it advances to maturity, when more than twice as long. *Seed* 3-square. ST.—*C. vesicaria*. LINN.—Referred to this species for the following reasons. In the *Fl. lapp. H. ox.* viii. 12. 6, is cited, and again in the *Fl. suec.* with a reference also to the description. It is characterised as having spikes slender when in flower, but thick when in fruit, which can hardly be said of *C. rostrata*. In *fl. suec. Mich.* 32. 6 and 7, and *C. B. th.* 84, are also cited, and though the former is the *C. riparia* of Curt. they both agree with our plant in its open, not

* LINNÆUS, it is evident from what follows, where he describes the honey-cup under the title of seed-bud, supposed the shaft to proceed from the point of the honey-cup, whereas in fact it rises from the seed-bud contained in the bottom of the honey cup. ST.

not diverging capsules. In the Sp. pl. the Fl. lapp. and Fl. succ. are referred to without any directions to exclude the references to figures there made. Scheuch. 470 is also added. In the Sp. pl. a new variety is indeed added from Van Royen, with a reference to the description before cited from the *H. ox.* in the *Fl. succ.* but the whole respecting this variety is, I apprehend, an extract from the *Fl. lugbb.* The honey-cup also is described as *tapering* and *taper-pointed*. Add to this that Retzius in his *Fl. scand.* cites *Fl. dan.* 647, all which, with its appearance in the last-mentioned work, convinces me, that the plant here described is what Linnæus intended by his *C. vesicaria*.—*C. vesicaria* β Huds.—*Carex inflata*, Lightfoot, as is evident from a specimen from the ingenious author of the *Fl. scot.* for which I am indebted to the favour of Mr. Pennant.—*C. spicis maribus una pluribus cylindricis, femininis teretibus pendulis, capsulis conicis rostratis bicornibus*. Hall. n. 1409.—*Cyperoides vesicarium, spicis viridantibus et subfuscis*. Scheuch. 450.—*Gramen cyperoides majus præcox, spicis turgidis teretibus florescentibus*. *H. ox.* III. p. 242. *R. fyn.* 420. *St.*

Bogs and marshes, as about Finlarig in Breadalbane. Mr. STUART in *Fl. scot.* [Heydon, Norfolk. Mr. BRYANT.] P. July.

Cows, Goats and Sheep eat it.

The Laplanders fill their shoes with it, to protect their feet from the cold in winter and from the heat in summer, for which purpose they pick, dry and card it.

C A' R E X *rostra'ta*. *St.*—Barren spikes more than 1; beaked fertile ones mostly on fruit-stalks. Capsules inflated, globular, taper-pointed, Huds.—diverging. *St.**

Leers 16. II.—*H. ox.* viii. 12. 8.

Spikes in some plants sitting, in others on fruit-stalks. Huds.—Barren spikes 2 or 3, very slender, reddish brown. Capsules spherical, with a cylindrical beak, as it were suddenly drawn out. Hall. at n. 1401, and also at n. 1409, p. 201. l. 5. *St.*—Capsules smaller than those of *C. vesicaria*, diverging. *Leers*. *St.* well figured in *Leers* 16. 2. II. p.—Leaves longer than the straw. Capsules membranaceous, roundish, with a projecting point. Ray. *St.*—Barren spikes narrow, strap-shaped, pointed, pale brown. Fertile spikes, the uppermost sitting, the lowermost on a short fruit-stalk, upright, cylindrical, yellowish green. Scales oval, brown, with pale green edges and lines along the back, nearly of the length of the capsules. Capsules short, oval or roundish, terminated with a cloven

* Capsulis divergentibus. *St.*

cloven point, numerous, closely set, nearly at right angles to the spike-stalk, at first of a yellowish green, when ripe pale brown. **LIGHTF. ST.**—*Stem* 1 to 4 feet high, the same plants varying from these extremes, according to the quantity of water in the places where they grow, slender, in general very obscurely triangular, none exactly 3-square, though some more or less triangular, and most so when dried, leafy below, naked to the lowermost spike. *Leaves* longer than the stem, narrow, sea-green, those at the base of the fruit-stalks long, and very slender. *Barren spikes* 2 or more, the terminating one 2 inches long, the rest shorter. *Scales* spear-shaped, brown, membranaceous at the edge, with a yellowish keel. *Fertile spikes* 2 or 3, upright, or nearly so, about 2 inches long, cylindrical, the upper sometimes fitting. *Fruit-stalks*, the lowermost nearly as long as the spike, those above shorter. *Scales* strap-spear-shaped, brown, with a green keel, as long as the capsules. *Capsules* roundish, inflated, scored, terminated in an acute cloven point, whilst young pale green, and when held in a strong light semi-transparent, when old brownish, nearly half as small as those of *C. vesicaria*. **Mr. Woodward.**—*Fertile spikes* sometimes with a few barren flowers at the end. *Scales* oblong, or spear-oblong, bluntish, in texture and colour similar to those of *C. vesicaria*, with 3 obscure ribs along the back. *Capsules* roundish, or oval, very slightly compressed, with a prominent edge on each side, and a still slighter on the side next the spike-stalk, slightly scored, shining, of a thin and delicate texture, portions of it depressed as in a dried flaccid bladder; the beak rising suddenly from the body, and generally slanting downwards like the neck of a retort, sometimes nearly half as long as the body. **ST.**

Carex vesicaria γ Linn.? This should seem a doubtful synonym from the fertile spikes being described as *oblong*, a term more applicable to those of *C. vesicaria*. Whatever the plant be, it should seem not to be a native of Sweden, Royen's synonym not having found a place in the Fl. suec.—*C. vesicaria*, Lightfoot, as is evident from a specimen very obligingly procured for me from Mr. Lightfoot by Mr. Pennant.—*C. vesicaria* α Hudson.—*C. vesicaria* α Leers n. 724.—*C. spicis masculis una pluribusne, femininis erectis teretibus, capsulis ampullatis rostratis*. Hall. n. 1401.—*Cyperoides polystachyon, spicis teretibus erectis*. Scheuchz. 472, as is evident from his description of “stem nearly round, or 3-square roundish.”—*Gramen cyperoides polystachyon majus, spicis teretibus erectis*. R. syn. 419. **ST.**

Bogs and marshy watery places, **Huds.** but not very common. Bogs of Isla, and on Benteskerny in Breadalbane. **LIGHTF.**—Common in the North, on the edges of brooks and rivulets, as in Giggleswick Tarn, and borders of Semer Water, Wensfledale.

Not

Not nearer London than Virginia Water. CURT.—[Near Bungay, Suffolk, frequent. MR. WOODWARD.] P. July.

CA' R E X *hir'ta*. Spikes remote; barren; more than *hairy* 1; the fertile ones on short fruit-stalks, upright. Capsules hairy.—

Leers 16. 3.—*H. ox.* viii. 12. 10.—*Fl. dan.* 425, *just coming into flower*; 379.* *Pluk.* 34. 6?—(*Park.* 1172. 7, *is a different plant.*)

Leaves on the outside, and their sheaths with a white wool. LINN.—Stem smooth, triangular; corners imperfect, but above the upper fertile spike the corners are sharp, and rough to the hand drawn downwards. Leaves very downy; edges rough to the hand drawn downwards; sheaths very long, downy on the upper part. Barren spikes 4 or 5, alternate, fitting; the lowermost with a few fertile flowers at the base, and an awl-shaped floral-leaf longer than the spike. Scales spear-shaped, reddish brown, with a green keel, smooth at the base, fringed at the top with soft hairs. Fertile spikes usually 2, distant, alternate, on short fruit-stalks. Scales spear-shaped, with membranaceous fringed edges, and a green keel, lengthened out into a long awl-shaped awn. Summits 3. Caps. very hairy, terminated in an acute cloven point. MR. WOODW.

Moist meadows and pastures. P. June [and May. WITH.]†

* The leaves too narrow, and not represented as hairy. LIGHTF. ST.—Fertile spikes egg-shaped, fitting. ST.

† Mr. Curtis, in his *cat.* mentions a *C. juncea*, which we may suppose to be the same with the plant so named by Scop. n. 1163, as Mr. Curtis must be fully sensible of the confusion occasioned by authors giving the same name to different plants. ST.

Order IV.

TETRANDRIA; IV. CHIVES.

106. ERIOCAU'LON. Pipe-wort.

(*Nasmythia*. HUDS.)

EMPAL. *common*, hemispherical; leaves circular; nearly equal; pressed to; permanent; containing a hemispherical incorporated flower, composed of very numerous florets.

B. *Barren Florets* in the middle of the disc.

EMPAL. *proper*; leaves 2; [wedge-shaped; concave. HUDS.]
BLOSS. *Petals* 2; upright; blunt; [1 funnel-shaped, with 2 divisions. HUDS.]

CHIVES. *Threads* 4; inserted into and shorter than the blossom. *Tips* roundish.

F. *Fertile Flowers* in the circumference, very numerous.

EMPAL. *proper*; leaves 2; [wedge-shaped; concave. HUDS.]
BLOSS. *Petal* 1; divided into 2. [Petals 2; upright; oblong; concave. HUDS.]

POINT. *Seed-bud* above; double. *Shaft* bristle-shaped; divided into 2. *Summits* simple.

S. VESS. *Capsule* with 2 seeds.

SEEDS solitary; roundish.

RECEPT. naked.

ESS. CHAR. *Empal. common*; a tiled head. *Petals* 3; equal. *Chives* above the seed-bud*.

Obs. The above generic description is taken from *E. decangulare*. The other species, which have 3 seeds, and vary also in point of number, should be examined in their places of growth. *Mant. pl.* 167.

wreathed ERIOCAU'LON *decangulare*. Straw with 10 angles. Leaves sword-shaped.—

* Dr. Hope has well explained the structure of the *E. decangulare*, but, before the character is altered, the other species should be examined. *Syst. veg.* ed. xiii. and xiv,

Phil. transf. lix. p. 243.—*Penn. hebr.* i. 39, at p. 314.—*Pet. gaz.* 6. 2, stem and head.—*Pluk.* 409. 5.*

Leaves awl-shaped, flat, channelled, jointed. *Petals* with a black dot below the point. LINN.—Grows under water. *Stalk* 1 to 1½ foot high, the top rising above the water when in flower. LIGHTF.—As to the *Eriocaulon*, I beg you will inform Dr. Withering that, when I examined it, I thought it not only a new species, but that it constituted a new genus. I sent it both to Jussieu and Linnæus. The latter wrote me in answer, that it was the plant, which, in his system, stood under the name of *E. decangulare*, and therefore I named it so, though sensible it neither answered to the generic characters of *Eriocaulon*, nor to the trivial name *decangulare*. I agree with Dr. Withering, that it should stand in the class Monocæcia, near the order Triandria, which includes the *Carex*. Linnæus has received my description of it, but you know one cannot, from an acquaintance of one species alone, give a generic character. Dr. HOPE, in a letter to Dr. Dennison, Jan. 1776:—With respect to the *E. decangulare*, after examining the parts of fructification in several plants, though not recent, I was of opinion it was a new plant, and sent it with my description to Linnæus, who was pleased to compliment me on the accuracy of the description, said it was *E. decangulare*, but that he should defer changing the characters of the genus, till the other species should have been examined, and properly described. Dr. HOPE, letter to Dr. Stokes, Dec. 6, 1783.

Nasmythia articulata, HUDS. who ought not to have formed it into a new genus, unless he could have shewn the structure of the other 4 *Eriocaulons* to be generically different. ST.

Discovered by Mr. Robertson, a pupil of Dr. Hope's, in a small lake in the Isle of Skye, in 1768.—In 2 or 3 small fresh water lochs about a mile West of Loch-sligachan, in the Isle of Skye, but particularly in a small lake called Loch-na-Caiplich, close to the road side between Sligachan and Drynoch, in such abundance, that the white fibres of the roots are thrown on the edges of the loch as sea weeds on the sea shore. LIGHTF. P. July. HUDS. Sept. LIGHTF.

The root is slightly acrimonious when chewed.

* Leaves bad. LIGHTFOOT.

1145. LITTOREL'LA. Shore-weed.

B. Barren Flowers.

EMPAL. Cup of 4 leaves; upright.

BLOSS. Petal 1; tube as long as the empalement; border with 4 divisions; upright; permanent.

CHIVES. Threads 4; thread-shaped; very long; inserted into the receptacle. Tips heart-shaped.

F. Fertile Flowers on the same plant.

EMPAL. none.

BLOSS. Petal 1; conical; mouth with 3 clefts; permanent.

POINT. Seed-bud oblong. Shaft thread-like; very long. Summit pointed.

S. VESS. The blossom investing the seed.

SEED. Nut of 1 cell.

ESS. CHAR. B. Empal. of 4 leaves. Bloss. with 4 clefts. Chives long.

F. Empal. o. Bloss. with mostly 4 clefts, [with 3 obscure clefts. HUDS. and syst. pl.] Shaft long. Seed a kernel.

Plantain

LITTOREL'LA lacus'tris.—

Fl. dan. 170.—Pluk. 35. 2.—H. ox. viii. 9. 30.—Giseck. 21.—Dill. musc. 81, in fruit. Oeder and Haller believe the substances on the leaves marked (a a) to be polypes.

The barren and fertile flowers on the same plant. Its flower is that of *Plantago*, but the chives and pointals being found in different flowers, and its fruit, provided what has been observed prove not to be only a bulb, distinguish it from that genus. The barren flower on a stalk, taller than the fertile one. The fertile flower sitting at the root. Shaft often as long as the stalk of the barren flower. LINN.—Fertile flowers 2, sometimes 3, at the base of the stalk of the barren flower. LIGHTF. RELH. MR. WOODWARD.—Leaves rush-like, flattish, convex underneath. Barren flower terminating. Threads white. RELH.—Chives sometimes as long as the fruit-stalk. Tips very large. MR. WOODWARD.

Marshy places in a sandy soil. Hounslow Heath near Witton. On the edges of almost all the Highland lakes. [At Hainford. MR. CROWE.—On the margins of Oulton Broad by Lowestoft, plentifully. MR. WOODWARD.—On the bank at the South end of Balla Lake, Merionethshire. MR. WOOD.] P. July, Aug.

1147. B E T' U L A. Birch.

B. *Barren Flowers forming a cylindrical Catkin.*

EMPAL. *Catkin*, common; tiled on every side; loose; cylindrical; consisting of *Scales*, with 3 flowers in each; to the sides of each of which are fixed 2 exceedingly small scales.

BLOSS. *Compound*, with 3 florets; equal; fixed to the centre of each scale of the cup.

Individuals of 1 petal; with 4 divisions; expanding; very small. *Segments* egg-shaped; blunt.

CHIVES. *Threads* 4; very small. *Tips* double.

F. *Fertile Flowers forming a Catkin on the same tree.*

EMPAL. *Catkin*, common; tiled. *Scales* placed by threes; opposite; fixed to the spike-stalk; 2 flowers in each; heart-shaped; concave; short; slightly notched at the end, with a sharp point in the middle.

BLOSS. none that is perceptible.

POINT. *Seed-bud* egg-shaped; very small. *Shafts* 2; bristle-shaped; as long as the scales of the cup. *Summits* simple.

S. VESS. none. The seeds lie under each triple scale of the catkin.

SEEDS solitary; egg-shaped; bordered.

ESS. CHAR. B. *Empal.* of 1 leaf; with 3 clefts, and 3 flowers. *Bloss.* with 4 divisions.

F. *Empal.* of 1 leaf; mostly 3 clefts, and 2 flowers. *Seeds* with a winged membrane on each side.

OBs. In some species the flowers form a cylindrical catkin; in others a roundish cone.

B E T' U L A *alba*. Leaves egg-shaped, taper-pointed, ferrated.—common

Hunt. Evel. 225; i. 218. ed. II.—*Gars.* 172. 1.—*Dod.* 839. 2, repr. in *Ger. em.* 1478, imit. in *Lob. obs.* 607. 2; ic. ii. 190. 2, and cop. in *Park.* 1408.—*Matth.* 142, catkins good.—*Blackw.* 240.—*Ger.* 1295.—*J. B. i. b.* 149.—*Trag.* 1113, branches with only catkins well done.—*Speët. de la nat.* 33. 2, at ii. p. 292, cop. in *nat. dein.* 21. 4, at ii. p. 312.—*Lonic. i.* 34. 1.

Branches, the lesser deep chestnut coloured. *Barren catkins*, scales tipped with brown, with smaller scales fixed to the center. *Blossom* egg-shaped, concave, green. It is liable to a disease in its

branches, which occasions it to send out a very great number of shoots in the middle of a branch, which being grown to some length, have very much the appearance at a distance of a tree full of Rooks nests; the leaves upon these shoots are downy and soft. WITH.

Birch tree. Birk.

Woods and moist hedges.

T. July. HUDS. [Apr. and May. WITH.]

It grows in all kinds of soil; but best in shady places. It bears cropping. It is hurtful to pasturage. The wood is firm, tough and white: Women's shoe-heels, and packing-boxes are made of it. It is planted along with hazel to make charcoal for forges. In the northern parts of Lancashire, they form the slender twigs into besoms for exportation. *Penn. tour.* The leaves afford a yellow dye. The bark is extremely useful to the people in the north of Europe; they make hats and drinking cups of it in Kamtschatka. The Swedish fishermen make shoes of it. The Norwegians cover their houses with it, and upon this cover, they lay turf three or four inches thick. Torches are made of the bark sliced and twisted together. It abounds with a resinous matter that is highly inflammable: If a hole is bored into the tree when the sap rises in the spring, a sweet liquor distils from it, which properly fermented, with the addition of sugar, makes a pleasant wine.—Horses, Cows, Goats and Sheep eat it. Swine refuse it.

It furnishes food to the *Papilio Antiopa*, *Betula*; *Phalæna pavonia*, *papilionaria*, *Quercus*, *Curcula*, *Betularia*, *Ziczac*; *Tenthredo lutea*; *Aphis Betulæ*; *Coccus Betulæ*; *Cimex Betulæ*; *Curculio Betulæ*; *Chrysomela Betulæ*.

dwarf BET'ULA *na'na*. Leaves circular, scolloped.—

Fl. lapp. 6. 4.—*Lightf.* 25, at ii. p. 575, twigs too slender.—*Fl.*

dan. 91, * leaves more egg-shaped than I have ever seen them, and the serratures more like those of *B. pumila*.

Leaves commonly 3 from each bud, LIGHTF.—but frequently single and alternate, generally entire at the base, scollops often pointed; frequently single and alternate. Catkins about half an inch long. Mr. WOODWARD.—Shrub upright. Trunk hard, stiff. Bark brown, roughish, resembling that of the *Ulmus campestris*. Branches expanding, straight, scattered, tapering, woolly, somewhat gummy at the ends. Leaves rather broader than they are long, scolloped, the scollops blunt, smooth, glossy, veined on both sides, expanding, mostly alternate, when rubbed between the fingers of the same scent as that of *Ulmus campestris*. Leaf-stalks very short, smooth,

* Both in this and *Lightf.* the catkins too oval and thick. Mr. WOODW.

smooth, compressed. *Leaf-scales* in pairs, egg-shaped, concave, upright, fringed, brown, permanent. *Buds* in the bosom of the leaves, roundish, brown. *St.*

Mountains, and wet heaths in Scotland. S. May.

Linnæus somewhere observes, that the plants, which chiefly grow upon mountains, are hardly found any where else but in marshes. Is it because the clouds resting upon the tops of the mountains, keep the air in a moist state, like the fogs in meadows and marshes, which are nothing but clouds in the lower part of the atmosphere? *Wirt.*—The leaves dye a finer yellow than that afforded by the *B. alba*. The Swedes make it into besoms. It affords the Laplander, in the summer when he lives on the mountains, fuel for the fires which he is obliged constantly to keep up in his hut to defend him from the gnats; and covered with the skins of the Rein-deer it forms his bed. *Linn.*

BET'ULA *Alnus*. Fruit-stalks branched.—

Alder

Math. 140, *imit.* in *Ger.* 1294.—*Speët. de la nat.* 26. 2, at ii. p. 285. *cop.* in *nat. delib.* 17. 4; at ii. p. 311.—*Clus.* i. 12. 2, repr. in *Lob. ic.* ii. 191. 1, *Ger. em.* 1477. 2, and *cop.* in *Park.* 1409.—*Gars.* 138.—*Clus.* i. 12. 1, repr. in *Dod.* 839. 1, and repr. in *Ger. em.* 1477. 1.—*Hunt. vel.* p. 240; i. p. 233. ed. II.—*Trag.* 1084.—*Lonic.* i. 17. 1, but more like *Corylus Avellana*.

Leaves nearly circular; clammy; serrated. Catkins brown.

Alder. [Owler, in Staffordshire. Öller, Worcestershire. *St.*]

Near water.

T. [Feb. and Mar. *St.*]

It flourishes best in low marshy situations, in which it is frequently planted to make hedges. It will not live in a chalky soil. It is easily propagated by seeds, but not by slips or cuttings. Grass grows well beneath its shade.—The wood is soft and brittle. It endures a long time under water, and therefore is used for pipes; and to lay under the foundations of buildings situated upon bogs. Women's shoe-heels, ploughmen's elogs, and various articles of the Turner are made of it.—The bark gives a red colour, and, with the addition of copperas, a black. It is used also to dye brown, particularly thread, and for colours to be saddened with copperas. It is principally used by fishermen to stain their nets.—In the Highlands of Scotland near Dundonald, Mr. Pennant says, the boughs cut in the summer, spread over the fields, and left during the winter to rot, are found to answer as a manure. In March the ground is cleared of the undecayed parts, and then ploughed.—The fresh-gathered leaves are covered with a glutinous liquor; and some people strew them upon their floors to destroy fleas; the fleas are said to be entangled in the tenaceous liquor, as birds

are by bird-lime.—The *catkins* dye green.—The whole plant is astringent.

Horses, Cows, Goats, and Sheep eat it. Swine refuse it.

The *Phalæna Vinula*, *Bucephala*, *Chrysorrhæa*, *antiqua*, *Pfi*; *Tenthredo Lutea*; *Chermes Alni*; *Curculio Betulæ*, *Alni*; *Coccinella 2 punctata*; *Chrysomela Alni*, live upon it. LINN.

If planted in a low meadow the ground surrounding it will become boggy, whereas, if Ash be planted, the roots of which penetrate a great way, and run near the surface, the ground will become firm and dry. Mr. WOODWARD.—The tongues of Horses that feed upon it are turned black, and it is supposed not to be wholesome for them. ST.

1148. BUX'US. Box.

B. *Barren Flowers projecting from the buds of the tree.*

EMPAL. *Cup of 3 leaves; circular; blunt; concave; expanding.*

BLOSS. *Petals 2; circular; concave; resembling the cup, but larger.*

CHIVES. *Threads 4; awl-shaped; upright but expanding; generally longer than the cup. Tips upright; double.*

POINT. *Seed-bud only a rudiment, without shaft or summit.*

F. *Fertile Flowers in the same bud with the others.*

EMPAL. *Cup, leaves 4; circular; blunt; concave; expanding.*

BLOSS. *Petals 3; circular; concave; resembling the cup, but larger.*

POINT. *Seed-bud roundish; with 3 blunt edges; ending in 3 very short permanent Shafts. Summits blunt; rough with hair.*

S. VESS. *Capsule roundish; with 3 bills and 3 cells; opening elastically in 3 directions.*

SEEDS 2; oblong; roundish on one side; flat on the other.

ESS. CHAR. B. *Empalement of 3 leaves. Petals 2. Rudiment of a seed-bud.*

F. *Empalement of 4 leaves. Petals 3. Shafts 5. Capsules with 3 beaks, and 3 cells. Seeds 2.*

BUX'US *sempervirens*.—

common

Ludw. 4.—Sheldr. 85.—Walc.—Math. 190.—Ger. 1225. 1.—
 Trag. 1069.—Dod. 782. 1, repr. in Lob. obs. 562; ic. ii. 128.
 2, Ger. em. 1410, and cop. in Park. 1429. 1.—Fuchf. 642.—
 Blackw. 196.—Lonic. i. 22. 2.—J. B. i. a. 496, more resem-
 bles the small-leaved Myrtle.

Leaves oval, thick, glossy. Blossoms greenish white.

Woods and hedges. Box-hill, near Darking, Surrey, plenti-
 fully. RAY. ST.—Woods of them at Boxwel in Cotefwold, Gloce-
 reshire, and Boxley, Kent. R. syn.—[In plenty on the Chalk
 Hills, near Dunstable. Mr. WOODWARD.]

The wood is very hard and smooth, and not apt to warp, and there-
 fore well adapted for the use of the Turner. Combs, Mathematical
 Instruments, Knife-handles, and Button-moulds are made of it.
 —An empyreumatic oil, distilled from the shavings, is often used
 as a topical application for the piles, and seldom fails to procure
 ease.—It will frequently relieve the tooth-ach, and has been given
 internally in epilepsies. The leaves powdered destroy worms.
 WITH.—A Horse refused it.—It is fit to cut down in about 30
 years. ST.

β HUDS. Narrow-leaved. On Box-hill. R. syn.

1149. UR'TICA. Nettle.

B. Barren Flowers.

EMPAL. Cup, leaves 4; circular; concave; blunt.

BLOSS. Petals none.

Honey-cup in the centre of the flower; glass-shap-
 ed; entire; narrower at bottom; very small.

CHIVES. Threads 4; awl-shaped; as long as the cup;
 expanding; 1 placed within each leaf of the cup.

Tips with 2 cells.

F. Fertile Flowers upon the same, or upon distinct plants.

EMPAL. Cup with 2 valves; egg-shaped; concave; up-
 right; permanent.

BLOSS. none.

POINT. Seed-bud egg-shaped. Shaft none. Summit woolly.

S. VESS. none. Cup closing.

SEED single; egg-shaped; compressed; blunt; shining.

ESS. CHAR. B. Empalement of 4 leaves. Bloss. o. Honey-
 cup in the centre, glass-shaped.

F. Empalement of 2 valves. Bloss. o. Seed 1; shining.

UR'TICA

Roman UR'TICA pilulifera Leaves opposite; egg-shaped, ferrated. Fertile catkins globular. LINN.—Leaves most frequently heart-shaped. Mr. WOODWARD.

Mill. ill.—Frag. 3. 2, cop. in Pet. 1. 11.—Blackw. 321. 1.—Fuchs. 106, cop. in J. B. iii. 445. 1.—Matth. 1125.—Ger. 570. 1.—Dod. 151. 1, repr. in Lob. obs. 281. 2; ic. i. 522. 1, Ger. em. 707. 1, and cop. in Park. 440. 1, and H. ox. xi. 25. 5.—Lonic. i. 109. 1.—Gars. 638.

Whole plant thick set with very pungent hairs. Stem 1 to 2 feet high. Leaves opposite, on long leaf-stalks; ferratures very deep, except near the insertion of the leaf-stalk, where the leaf is entire. Fruit-stalks from the bosom of the leaves; those of the barren flowers larger and slenderer, branched; those of the fertile flowers about $\frac{1}{2}$ an inch long, expanding, when in seed hanging down. Fertile Catkins 3 or 4 lines in diameter. For Hall. helv. and Hall. helv. ed. pr. in Sp. pl. and Syst. pl. read Hall. gott. ST.—Stem cylindrical, scored. Barren flowers: Honey-cup cup-shaped, 4-cornered, 4-sided. Fertile flower, stings longer and sharper than those of the barren flower. WITH.—Urtica pilulifera, balearica, et dodarti are merely varieties, though constant ones, and any one who thinks proper may unite them. LINN. ST.—U. balearica? Some individuals of our plant are referable to this species, as others to the U. pilulifera. But from frequent observations I can see no reason to suppose the difference of the leaves to be any thing more than an accidental variety. When growing very close to a wall it is frequently taller and slenderer, and the leaves generally smaller and egg-shaped, when more distant the plant is shorter and stronger, and the leaves larger and heart-shaped. Mr. WOODWARD.—Prof. Murray considers them to be distinct, but observes that in some specimens of what he considers U. balearica, the leaves are egg-shaped, in others heart-shaped, in some the stems and leaf-stalks purplish, in others not so. But he offers the following marks of discrimination. He says of the balearica. “Leaves slanting at the base, projecting most on one side, entire at the base and point, the rest ferrated with blunt indentations. In the fuller grown leaves the edge is contracted so that they appear convex.” Murr. gott. p. 185.

Rubbish. Yarmouth, and at Aldborough, Suffolk. R. syn.—[Under walls at Yarmouth and elsewhere on the coast, frequent. Mr. WOODWARD.] A. August.

lesser UR'TICA u'rens. Leaves opposite, oval.—

Il. dan. 739.—Ger. 570. 3.—Matth. 112, imit. in Dod. 152, Lob. obs. 282. 1; ic. i. 522. 2, Ger. em. 707, and cop. in Park. 440. 2. and

and Pet. 1. 10.—Gars. 637. 1.—Fuchs. 108, cop. in. J. B. iii. 446.—H. ox. xi. 25. row 2. 4.—Trag. 3. 1.

Rubbish, cultivated ground, [and dunghills. ST.]

A. July—September.

The leaves are gathered and cut to pieces, to mix with the food of young Turkeys.—Cows, Horses, Sheep, Goats and Swine refuse it. LINN.—A Horse refused it. ST.

UR'TICA dioica. Leaves opposite, heart-shaped. common Bunches in pairs.—

Fl. dan. 746, fertile plant.—Blackw. 12, barren plant.—Fuchs. 107, cop. in J. B. iii. 445. 2, and imit. in Trag. 2. 1.—Ger. 570. 2 and 4.—Gars. 637.—Lonic. i. 108. 2.—Matth. 1126, cop. in Dod. 151. 2, Lob. obs. 281. 1, ic. i. 521. 2, Ger. em. 706. 2, and cop. in Park. 441. 3, H. ox. xi. 25. row 2. 1, and Pet. 1. 9.

Barren and fertile flowers on distinct plants. LINN.—Barren flower: Empal. of 1 leaf, with 4 divisions. Chives. These afford a very pleasing appearance: They are rolled inwards under the segments of the cup, which fold over them till they are ripe; when the segments gradually expanding, the chives, released from their confinement, roll backwards with an elastic force, and discharge the contents of their transparent tips, which float in the air like a cloud of dust, that it may arrive at the summits of the fertile flowers, which grow on distinct plants, and fertilize the feed-buds. Fertile flowers: Empal. of 4 valves; the 2 innermost the largest, and performing the office of a feed-vessel. Barren flowers: Empal. falling off after the tips have shed their dust; segments egg-shaped, concave, before the tips shed their dust approaching, afterwards expanding. Threads longer than the empalement; after they have shed their dust expanding. Tips membranaceous, transparent. Dust white, nearly globular. Fertile plant: Seed-vessel none. The 2 inner valves of the empalement close upon the seed, with the 2 smaller ones at the base. ST.—Bunches branched, those of the fertile plant brown when the seeds are ripe. Seeds heart-shaped. WITH.—Leaves serrated, stinging.

Ditch-banks and amongst rubbish.

P. July.

The stings are very curious microscopic objects: They consist of an exceedingly fine pointed, tapering, hollow substance, with a perforation at the point, and a bag at the base. When the sting is pressed upon, it readily punctures the skin, and the same pressure forces up an acrimonious fluid from the bag, which instantly squirts into the wound, and produces an effect that most have experienced.—The stalks may be dressed like Flax or Hemp, for making

making Cloth, or Paper—The plant has formerly been used as an astringent, but is now disregarded.—A leaf put upon the tongue, and then pressed against the roof of the mouth, is pretty efficacious in stopping a bleeding at the nose.—Paralytic limbs have been recovered by stinging them with Nettles.—The young shoots are gathered early in the spring to boil in broth or gruel.—Cows eat the leaves when they are a little withered.—The leaves are cut to pieces to mix with the food of young Turkeys, and other Poultry.

Cows, Horses, Sheep, Goats and Swine refuse them.

It nourishes the *Papilio Atalanta*, *C. album*, *Cardui*, *Io*, *Urticæ*, *Paphiæ*; Crimson and Gold Moth, Dot Moth, Likeness Egger Moth, Snout Likeness Egger Moth, Dingy China Mark Likeness Moth, *Phalæna Didactyla*, *urticata*, *meticulosa*, *Caja*, *Dominula*, *Plantaginis*, *Lubricipeda*, *villica*, *verticalis*, *rostralis*, *interrogationis*, Nettle Top Moth, Blossom Underwing Moth, and the Gothic Moth. On the roots, *Curculio scaber*; *Aphis Urticæ* and *Chermes Urticæ*. LINN.

Asses are fond of it, and Cows eat it in hay. ST.

Order V.

PENTANDRIA; V. CHIVES.

1152. XAN'THIUM. Clott-weed.

B. *Barren Flowers, compound.*

EMPAL. *Cup, common to many florets; formed of many leaves; tiled with slender scales, as long as the florets; equal.*

BLOSS. *Compound, uniform; tubular; equal; formed into an hemisphere.*

Individual, petal 1; tubular; funnel-shaped; upright; with 5 clefts.

CHIVES. *Threads 5; forming a hollow cylinder. Tips upright; parallel; not united.*

RECEPT. *Common, next to none; the florets being separated by chaff.*

F. *Fertile Flowers beneath the others, on the same plant; 2 together.*

EMPAL. *Fence containing 2 flowers; formed of 2 Leaves; opposite; each divided into 3 sharp lobes; the middle lobe projecting farthest; set round with hooked prickles; furrounding and entirely covering the seed-buds to which they are fixed. Little Segments loose.*

BLOSS. *none.*

POINT. *Seed-bud oval; rough with hair. Shafts 2; similar; hair-like. Summits simple.*

S. VESS. *Berry dry; oblong egg-shaped; cloven at the end; beset closely with hooked prickles.*

SEED. *Nut; with 2 cells.*

ESS. CHAR. B. *Common Empal. tiled. Bloss. of 1 petal, with 5 clefts, funnel-shaped. Recept. chaffy.*

F. *Empal. a fence of 2 leaves, and 2 flowers. Bloss. o. Stone-fruit dry; covered with sharp points; with 2 clefts. Nut of 2 cells.*

XAN'THIUM *Strumarium.* Stem without thorns. *Burdock*
Leaves heart-shaped; 3-fibred.—

Blackw.

Blackw. 444.—*Fuchf.* 579, *cop. in J. B.* iii. 572, *Trag.* 839, and imitated in *Lonic.* i. 65. 1.—*Ger.* 664. 2.—*Math.* 1204, *cop. in Dod.* 39. 1, which repr. in *Lob. obs.* 319, *ic.* i. 588. 2, *Ger. em.* 809. 2, and *cop. in Park.* 1223. 4.—*Gars.* 642.

Stem much branched, usually tinged with dark purple, rough with short stiff hairs. *Young branches* woolly, whitish and soft. *Leaves* bright green, smooth to the eye, but rough to the touch; when viewed with a glass, covered with very short hairs, when young woolly; alternate, heart-shaped, broader than long, with 3 obscure lobes, toothed; teeth large, distant, with irregular serratures between. *Leaf-stalks* woolly, whitish and soft, on entering the leaf dividing into 3 large ribs, sub-dividing into numerous smaller ones, the principal rough with hairs, and frequently of a dark dirty purple. *Barren flowers* in a branched bunch, terminating the stem and branches. *Fertile flowers* immediately beneath in the bosoms of the upper leaves. *Seed-vessels* with yellow prickles. *Mr. Woodward.*—*Leaves* falling off before the fruit. *ST.*—*Stem* generally spotted. *Flowers* at the base of the leaves.

Xanthium, seu Lappa minor. *R. fyn.* 140.—*X. foliis semitrilobatis, aculeis uncinatis.* *Hall. hist.* 1621. *ST.*

Lesser Burdock.

On dunghills, and ground highly manured. A. June—Sept.

The leaves are bitter and astringent.—A decoction of the whole plant affords a showy yellow colour; but it is better if only the flowers are used.

Horses and Goats eat it. Cows, Sheep, and Swine refuse it.

1157. AMARAN'THUS. Amaranth.

B. *Barren Flowers on the same plant with the fertile ones.*

EMPAL. Cup, leaves 5, or 3; upright; coloured; permanent; spear-shaped; sharp.

BLOSS. none; unless the empal. is considered as such.

CHIVES. *Threads* 5, or 3; hair-like; upright, but standing rather open; as long as the cup. *Tips* oblong; vane-like.

F. *Fertile Flowers in the same bunch with the others.*

EMPAL. Cup the same as the other.

BLOSS. none.

POINT. *Seed-bud* egg-shaped. *Shafts* 3; short; awl-shaped. *Summits* simple; permanent.

S. VESS. *Capsule* egg-shaped; somewhat compressed; of the size of the cup which contains it, and coloured like that. *Bills* 3; cut round; with 1 cell.

SEED single; globular; compressed; large.

ESS. CHAR. B. *Empalement* of 3, or 5 leaves. *Bloss.* 0. *Chives* 3, or 5.

F. *Empalement* of 3, or 5 leaves. *Bloss.* 0. *Shafts* 3. *Caps.* of 1 cell, cut round. *Seed* 1.

AMARAN'THUS *Blitum*. Chives 3. Clusters *leaf* lateral. Flowers with 3 clefts. Leaves egg-shaped, dented. Stem spreading.—

Cam. epit. 236.—*Pluk.* 272. 2? *—*J. B.* ii. 967. 1, *cop.* in *Pet.* 7. 9, and abridged or rather spoiled in *H. ox.* v. 30. 5, by the leaves being represented as pointed.—(*Lob. ic.* i. 250. 1, repr. in *Ger. em.* 321. 4, from the pointed leaves should seem to be a different species, but is referred to by *C. B.* under the title cited by *Lin.* and *Ray.*)

Leaves sometimes white or silvery in the middle, with or without a brown spot. LINN.—Leaves alternate, the smaller egg-shaped, the larger somewhat rhomboidal, with a deep notch at the end, and usually a small projecting point, entire, with a strong mid-rib and parallel ribs underneath. *Leaf-stalks* as long as the leaves.

Flowers

* *Pluk. phytogr.* t. 212. 2, is the reference of *Sp. pl.* and *Syst. pl.* but there is no figure of this genus in that plate. ST.

Flowers numerous. Bunches irregular, sitting, on small lateral branches, with small leaves interspersed. Mr. WOODWARD.

Amaranthus Blitum β Huds.—(*Blitum rubrum supinum*, Lob. ic. 250, is an addition of Reichard's from Haller.). ST.

β White. HUDS.

On rubbish. [Ripton, Huntingdonsh. Mr. Woodw.] A. Aug.

Order VIII.

POLYANDRIA; MANY CHIVES; (More than VII.)

1162. CERATOPHYLLUM. Horn-weed.

B. Barren Flowers.

EMPAL. Cup with many divisions; segments awl-shaped; equal.

BLOSS. none.

CHIVES. Threads twice as many as there are segments in the cup; 16 to 20; hardly discernible. Tips oblong; upright; longer than the cup.

F. Fertile Flowers on the same plant.

EMPAL. Cup as above.

BLOSS. none.

POINT. Seed-bud egg-shaped; compressed. Shaft none. Summit blunt; oblique.

S. VESS. none.

SEED. Nut egg-shaped; of 1 cell; tapering to a point.

ESS. CHAR. B. Empalement with many divisions. Bloss. 0. Chives 16 to 20.

F. Empalement with many divisions. Bloss. 0. Pointal 1. Shaft 0. Seed 1; naked.

floating

CERATOPHYLLUM *demersum*. Leaves twin-forked. Fruit with 3 thorns.—

Fl. dan. 510.*—Brit. herb. 78.—Loes. 12, at p. 67.—Vaill. hist. de l'acad. 2. 1, in vol. for 1719. p. 21.—The 2 last I have not seen.

* Referred in the *sysl. veg.* and *sysl. pl.* to *C. submersum*, but the leaves are twin-forked, and though Oeder calls it *C. submersum*, he refers to Hall. n. 1599, which is clearly *C. demersum*. Mr. WOODWARD. ST.

Root striking deep in the mud. Stem much branched, the lower part generally covered with mud. Leaves in whorls, about 8 in a whorl, the lower whorls about half an inch distant, but closer upwards, and extremely crowded towards the end; twice-forked, bristle-shaped, harsh and somewhat brittle, semi-transparent, green, spotted with short purple lines, and the extreme forks toothed on the outside only; those on the part of the stem covered with or lying in the mud, short, forked, much thicker than those above, and appearing as if broken or bitten. Flowers few, in the bosoms of the leaves. Seed-vessel with 1 long thorn at the summit, and 2 shorter on opposite sides near the base. MR. WOODWARD.

Ditches and flow streams.

P. Aug. Sept.

β HUDS. *Ceratophyllum submersum*. Leaves treble forked. Fruit without thorns. LINN.

Brit. herb. 79.—Vaill. hist. de l'acad. 2. 2, in vol. for 1719. p. 16.

This last I have not seen.—(Fl. dan. 510, is *C. demersum*.)

So nearly allied to *C. demersum* that it may prove to be only a variety. LINN.—Specimens from Paris had the leaves twin-forked. I should not be inclined to consider it as a distinct species. HALL.

Ditches on the side of the road from Chichester to the Isle of Selfey. R. syn.

1163. MYRIOPHYLLUM. Milfoil.

B. Barren Flowers.

EMPAL. Cup, leaves 4; oblong; upright; the outermost the largest, and the innermost the smallest.

BLOSS. none.

CHIVES. Threads 8; hair-like; longer than the cup; limber. Tips oblong.

F. Fertile Flowers placed under the others.

EMPAL. Cup as above.

BLOSS. none.

POINT. Seed-buds 4; oblong. Shafts 0. Summits downy.

S. VESS. none.

SEEDS 4; oblong.

ESS. CHAR. B. Empal. 4 leaves. Bloss. 0. Chives 8.

F. Empal. 4 leaves. Bloss. 0. Point. 4. Shaft 0. Seeds 4; naked.

OBS. In *M. verticillatum* the chives and pointals are frequently in the same empalement.

MYRIOPHYLLUM *spicatum*. Barren flowers spiked in interrupted spikes. LINN.—Spike naked. HALL. ST.

Fl. dan. 681.—*C. B. pr.* 73. 1, *cop. in Park.* 1257. 7, *J. B.* iii. 783. 1, and *Pet.* 6. 5.—(*Pet.* 6. 7, seems rather to be *M. verticillatum*, from the closeness of the whorls of leaves.)

Spike leafless. LINN.—*Leaves* always in fours. GMEL. WITH.—*Stem* branched. *Leaves* in whorls, under water, winged; wings hair-like, deep green. *Flowering spike* rising above the water. *Whorls* 6 or 8, the upper of barren flowers, somewhat crowded, the lower of fertile flowers more distant. *Empal.* leaves oval, concave, purplish without, shedding. *Tips* yellowish green. *Summits* expanding cross-wise. MR. WOODWARD.—*Stems* reddish, divided within into about 16 hollow cells. *Leaves* winged; *leaflets* awl-shaped. *Flowers* 4 in a whorl; the barren ones the uppermost, and some of them containing the rudiments of 4 feed-buds. *Tips* yellow. WITH.—*Stems* hollow, scored, jointed, branched.

Spiked Water-Milfoil.—Ditches, ponds, lakes, and still water.

P. July. HUDS. [May. WITH.]

Sheep and Goats refuse it.

β HUDS. Broadish entire leaves at the base of the whorls. BOBART in *H. ox.* *M. verticillatum* β which see.

whorled

MYRIOPHYLLUM *verticillatum*. All the flowers in whorls, with chives and pointals. LINN.—Flowers from the bosom of the leaves. HALL. ST.

Clus. ii. 252. 1, *cop. in Park.* 1256. 3, *J. B.* iii. 783. 2, and *Pet.* 6. 8.

Leaves in fives. In this and also *M. verticillatum* I find barren and fertile flowers distinct, and sometimes, though rarely, some with chives and pointals. LINN. fl. suec.—*Leaves* in fours. *Flowers* with chives and pointals. TURRA quoted by Linn. in *syft. veg.*—*Leaves* generally in fives, half an inch long, 3 lines broad, winged; the wings bristle-trap-shaped, scarcely 2 lines long, those of the flower leaves $1\frac{1}{2}$ line long. POLLICH.—In muddy ditches, with little water, it appears as follows. *Stems* 6 or 8 inches high, simple. *Leaves* not more than an inch long; wings $1\frac{1}{2}$ or 2 lines long. In ponds as follows. *Stems* branching, 2 feet and more long. *Leaves* under water $1\frac{1}{2}$ or 2 inches long; wings half an inch long, hair-like and slenderer. *Spike* 6 or 7 inches long, with 12 to 16 or more whorls, the lower ones about half an inch distant, the upper nearer, with 4 or 5 winged leaves at each whorl, about half an inch long, wings about 1 line long. *Flowers* in the bosom of the leaves, similar to those of *M. spicatum*, those of the upper whorls usually barren; those of the lower fertile, and sometimes the upper barren, the middle ones with chives and pointals in the same flower, and the lower fertile. MR. WOODWARD.

Ditches

Ditches and stagnant waters, HUDS.—rare. PET.—[Ditches near Bungay, Suffolk, and near Yarmouth. The large fort in a pond at Hedenham, Norfolk, on a strong clayey soil. Mr. WOODWARD.]

P. June, July.

β ? ST.—*H. ox.* xv. 4. row 3. 7.—(*Pet.* 6. 6, referred to in *R. syn.* is *M. spicatum*.) *Pentapteris floribus alaribus* var. III. Hall. hist. n. 992.—*Myriophyllum spicatum* β Hudson.—*Millefolium aquaticum pennatum minus, foliolis singularibus latiusculis flosculis subjeetis donatum.* *H. ox.* III. p. 622. *R. syn.* 151. ST.

In a ditch near Lodden Bridge not far from Reading. *H. ox.*—In the River near Hounslow Heath. *R. syn.*

1164. SAGITTARIA. Arrow-head.

B. Barren Flowers many.

EMPAL. Cup, leaves 3; egg-shaped; concave; permanent. BLOSS. Petals 3; circular; blunt; flat; expanding; thrice as large as the cup.

CHIVES. Threads many; generally 24; awl-shaped; collected into a little head. Tips upright; as long as the cup.

F. Fertile Flowers few, and standing beneath the others.

EMPAL. Cup as above.

BLOSS. Petals 3, as above.

POINT. Seed-buds numerous; compressed; forming a little head; hunched on the outer side; ending in very short shafts. Summits sharp; permanent.

S. VESS. none. Receptacle globular; and set round with the seeds so as to form a globe.

SEEDS numerous; oblong; compressed; encompassed lengthways by a broad membranaceous border, which is hunched on one side, and tapering towards each end.

ESS. CHAR. B. Empal. of 3 leaves. Bloss. of 3 petals. Threads about 24.

F. Empal. of 3 leaves. Bloss. of 3 petals. Pointals many. Seeds many; naked.

SAGITTARIA sagittifolia. Leaves arrow-shaped, pointed.—common

Giesf. 64.—*Fl. dan.* 172.—*Dod.* 538. 2, repr. in *Lob. obs.* 161. 2, ic. i. 302. 1, *Ger. em.* 416. 2, and cop. in *Park.* 1247. 2; and
4 A 2 int.

imit. in *J. B.* iii. 789, which cop. in *Pet.* 43. 11.—(*Pet.* 43. 10, is γ of LINN.)

Stalk not branched. Leaves, segments pointed, straddling. Flowers in whorls. Whorls about $1\frac{1}{2}$ inch from each other. POLLICH.—Flowers beautiful, white, with purplish claws. RELH.—Leaves all from the root, the first which are always under water long, strap-shaped, by some authors considered as a variety, and well figured in *Fl. dan.* 172, and ill done in *Pet.* 43. 9; the succeeding, which rise above the water, arrow-shaped, very entire, smooth, with parallel ribs and a network of veins. Leaf-stalks tapering, convex underneath, concave above, covered by the water. Flowers 3 in a whorl. Flower-scales small, oval spear-shaped, 1 at the base of each fruit-stalk, embracing the stem. Fruit-stalks of the barren flowers an inch long, of the fertile flowers about half an inch long, stronger. Petals shedding. A plant very ornamental to the marsh ditches. Stalk with 6 edges. Flowers, the lower with only pointals, the upper with chives, and from 1 to 5 pointals; none with only chives. Empalement of 1 leaf, with 3 divisions. ST.

Arrow-head.—Ditches and Banks of slow rivers. P. July.

There is always a bulb at the lower part of the root, growing in the solid earth, beneath the mud. This bulb constitutes a considerable part of the food of the Chinese, and upon that account they cultivate it.

Horses, Goats and Swine eat it; Cows are not fond of it.

β Huds. Ger. 337, cop. in *J. B.* iii. 790. 2, and *Pet.* 43. 12.

On the Thames shore, over against Lambeth palace; and before the E. of Peterborough's house, above the horse-ferry, on Westminster side. R. *syn.*—The other varieties mentioned by authors appear to me to differ merely in size. The δ of Linnæus and β of Hall. is surely imaginary, for the strap-shaped leaves will be always found both before and after flowering. MR. WOODWARD.

1167. POTE'R IUM. Burnet.

B. *Barren Flowers forming a spike.*

EMPAL. *Cup*, leaves 3; egg-shaped; coloured; shedding.

BLOSS. with 4 divisions. *Petals* egg-shaped; concave; expanding; united at the base; permanent.

CHIVES. *Threads* many; 20 to 50; hair-like; very long; limber. *Tips* roundish; double.

F. *Fertile Flowers in the same spike, but placed above the others.*

EMPAL. *Cup* as above.

BLOSS. *Petal* 1; wheel-shaped. *Tube* short; roundish; closing at the mouth. *Border* with 4 divisions. *Segments* egg-shaped; flat; reflected; permanent.

POINT. *Seed-buds* 2; oblong egg-shaped; within the tube of the blossom. *Shafts* 2; hair-like; coloured; limber; as long as the blossom. *Summit* pencil-shaped; coloured.

S. VESS. *Berry* formed of the tube of the blossom; grown thick; hard; and closed.

SEEDS 2.

ESS. CHAR. B. *Empal.* leaves 4. *Bloss.* 4 divisions. *Chives* 30 to 40.

F. *Empal.* leaves 4. *Bloss.* 4 divisions. *Pointals* 2. *Berry* formed of the tube of the blossom indurated.

OBS. Empalement sometimes of 2 or 3 leaves. REICH.

POTE'R IUM *Sanguisor'ba*. Without thorns. common
Stems somewhat angular.—

Lindw. 197.—*Curt.* ii. 15, but all the leaflets egg-shaped and pointed.—

Matth. 1034, imit. in *Dod.* 105. 1, *Lob. obs.* 412. 3; *ic.* i. 718.

2, *Ger. em.* 1045. 1, and cop. in *Park.* 582. 1; and imitated also

in *Ger.* 889. 1.—*Sheldr.*—*Gars.* 457, but in these 2 last, the leaflets

more like those of *Sanguisorba officinalis*.—*Fuchs.* 789, cop. in *J.*

B. iii. b. 116.—*Blackw.* 413.—*Col. ecphr.* i. 124, cop. in *H.*

ox. viii. 18. 1, but in the copy the whole plant is represented as

rough.—(*Trag.* 470, is a copy of *Fuchs.* 788, a representation of

Sanguisorba officinalis.—*Lonic.* i. 230. 1, is the same.)

Barren flower with 2 feeble pointals. *Berry* dry, angular. *Seeds* 4-cornered, tapering to each end. LINN.—Much smaller than *Sanguisorba officinalis*. *Stems* usually declining. *Leaves*, the lower leaflets rounder than those of *Sanguisorba officinalis*. *Heads* sometimes

purplish when in feed; never of so deep a tinge as those of the *Sanguisorba*, and not shining. Mr. WOODWARD.—Root woody, cylindrical, long. Stem ascending, furrowed, smooth above, hairy below. Leaves winged; leaflets heart-circular, scolloped, smooth, sometimes folded to; the upper opposite, the lower alternate. Leaf-stalks 3-cornered, channelled, hairy, somewhat membranaceous at the base. Spikes roundish, the terminating one the largest. Fruit-stalks long, flaccid, nodding. Fence none. Barren flowers in the lower part of the spikes. Fertile flowers above the barren flowers, in the upper part of the spikes, and expanding before the barren flowers, as if prepared for the reception of the latter. Empal. dry, membranaceous, somewhat hairy, light brown. Petals green, coloured without, membranaceous at the edge, those of the fertile flowers bent back after flowering. Seed-bud egg-oblong, beneath, between the empalement and blossom, as in *Sanguisorba officinalis*; in the barren flowers wanting. Shafts purple, sometimes flesh-coloured, or whitish. ST.—*Sanguisorba Poterium*. Spikes roundish. Flowers barren and fertile in the various dispositions. Chives many. WIGGERS p. 14, * considering it after Haller, as of one and the same genus with *Sanguisorba officinalis*. * *Poterium* and *Sanguisorba* agree in habit, mode of flowering, and fruit. I have seen in the *S. canadensis* flowers with chives and pointals in various dispositions, and in *S. media* in various dispositions, and with chives and pointals separate on the same plant, and in the *S. auriculata* of Scop. there are 4 chives, 1 pointal, and flowers with chives and pointals in various dispositions, so that these genera cannot be separated without doing violence to nature. WIGGERS.—The above opinion of Wiggers has induced me to subjoin my remarks on *Sanguisorba officinalis*, which I omitted to insert in their proper place. Empal. double, beneath; the outer of 2 leaves, leaves spear egg-shaped; but often egg, or inversely egg-shaped, keeled, upright, membranaceous, brown, nearly as long again as the seed-bud, the keel and edges hairy; the inner of 1 leaf, clothing the seed-bud, crowned with a fleshy convex receptacle which has 4 obscure teeth, is woolly and surrounds the base of the blossom. Bloss. segments so slightly cohering at the base, that the slightest touch separates them, concave, somewhat keeled and hairy on the outside, towards the base. Pointals sometimes, though rarely, 2. Seed-bud or Seed-buds oblong, smooth, clothed by the empalement. This description, compared with that given above of the *Poterium Sanguisorba*, seems to evince a more intimate connexion between these plants than would appear from the generic descriptions. In a natural order these plants seem most nearly allied to *Plantago*. ST. notes, July 17, 1776.

Burnet.—High meadows and pastures in a calcareous soil.

P. July. Huds. [Beginning of May. Str.]

The young leaves are sometimes used in fallads, and in cool tankards. When bruised they smell like cucumber. It has, of late years, been cultivated, as affording food for cattle early in the spring; and growing so luxuriantly, as to allow of 3 mowings during the summer, *Bot. arr. ed. i. p. 78*;—but not answering the farmers expectations, it is now in a great degree laid aside. Cattle are said not to be fond of it, nor is its produce sufficient to answer the expence attending its culture. CURT.—The leaves and seeds are mildly astringent, and have been used in dysenteries and hæmorrhages. LEWIS.

1168. QUER'CUS. Oak.

B. *Barren Flowers forming a loose catkin.*

EMPAL. Cup, 1 leaf; with 4 or 5 clefts; segments sharp; often cloven.

BLOSS. none.

CHIVES. *Threads* many; 5, 8, or 10; very short. *Tips* large; double.

F. *Fertile Flowers seated in a bud on the same tree.*

EMPAL. Cup 1 leaf; leather-like; hemispherical; rough; very entire; hardly discernable whilst the flower continues.

BLOSS. none.

POINT. *Seed-bud* egg-shaped; very small. *Shafts* 2 to 5; longer than the cup. *Summit* simple; permanent.

S. VESS. none.

SEED. *Nut* oval; formed of a leather-like coat of 1 valve, which appears as if rasped at the base; fixed to a short cup; cylindrical; smooth.

ESS. CHAR. B. *Empal. with mostly 5 clefts.* Bloss. o. *Chives* 5 to 10.

F. *Empal. of 1 leaf; very entire; rough.* Bloss. o. *Shafts* 2 to 5. *Seed* 1; egg-shaped.

QUER'CUS Ro'bur. Leaves deciduous; oblong; common broadest towards the end; indentations rather acute; angles blunt.—

Ludw. 69.—Hunt. evel. p. 69, ed. I; i. p. 67, ed. II.—Gars.

480.—*Dod. 823. 1, repr. in Lob. obs. 582. 3; ic. ii. 154. 2,*

Ger. em. 1340. 2, and *cop. in Park.* 1390. 1.—*Lob. obs.* 583. 2, and *repr. in ic.* ii. 155. 2.—*Math.* 204.—*J. B. i. b.* 85.—*Lob. obs.* 583. 1, *repr. in ic.* ii. 155. 1, and *cop. in J. B. i. b.* 88.—*Ger.* 1156. 1.—*J. B. i. b.* 70. 2.—*Lonic.* i. 31. 2.—*Fuchs.* 229, *cop. in J. B. i. b.* 70. 1.—*Trag.* 1102.—*Speët. de la nat.* 25. 1, at ii. p. 283, *cop. in Nat. delin.* 17. 1, at ii. p. 311.

α LINN.—Leaves on leaf-stalks. Fruit sitting, MILL.—nearly sitting. DU ROI.

Leaves appear later than in β .—*Flowers* come out later. Fruit later. *Acorns* 4 to 12 together, on some trees egg-shaped, in others oblong, taper-pointed. Wood reddish, brittle. DU ROI.—*Leaves* deeper green, and not so deeply indented. RAY.—Frequently retains its leaves all winter. MR. WOODWARD.

$\mathcal{Q}$. *Robur* β HUDS.— $\mathcal{Q}$. *latifolia mas*, quæ brevi pediculo est. R. syn. 440. ST.—Bay-Oak about Newberry. R. syn. Bagley-Wood, and other places. BOBART in R. syn.—Common but less so than β MR. WOODWARD. T.

β LINN.—Leaves blunt, wing-indented. Leaf-stalks very short. Acorns on very long fruit-stalks. MILL.—Acorns on fruit-stalks, mostly solitary. DU ROI.

Leaves not so deeply indented, nor the indentures so irregular, but opposite. Trees raised from acorns of this sort produced acorns and retained all the marks of their parent tree. MILL.—*Leaves* deeper green than in α , narrower above. *Acorns* 1 to 3, joined together. Wood whitish, hard. DU ROI.—*Flowers* appearing before the leaves. RELH.—*Barren flowers*: *Empal.* with 6 or 7, and sometimes 8 clefts, nearly corresponding in number to the chives. *Chives* 7 to 9, mostly 8. *Fertile flowers*: *Empal.* tiled, composed of small leaves; leaves spear-egg-shaped, membranaceous, coloured, about 20. *Shafts* mostly 3, bent back. ST.—In the mid-land counties the fruit-stalks are 5 or 6 times as long as the leaf-stalks. WITH.

Quercus Robur α HUDS.— $\mathcal{Q}$. *feminea*, MILL. DU ROI.

Oak-tree.—Woods and hedges. [Not so common as α , but in the wilds of Kent and Suffex I have seen many large trees of it. MILL.] T. April.

It loves hilly better than boggy ground, and thrives best, while young, in large plantations. Its roots descend deep into the earth, and therefore will not bear to be transplanted. Much lopping destroys it. Grass will hardly grow beneath it.—The wood is hard; tough; tolerably flexible; not easily splintering; and therefore is preferred before all other timber for building ships of war. It is well adapted to almost every purpose of the carpenter; but an attempt

tempt to enumerate all the uses of this well known wood, would be equally superfluous and difficult.—Oak saw-dust is the principal indigenous vegetable used in dying fustian. All the varieties of drabs, and different shades of brown, are made with Oak saw-dust, variously managed and compounded.—The balls, or Oak apples, are likewise used in dying, as a substitute for galls. The black got from them, by the addition of copperas, is more beautiful than that from galls, but not so durable.—The bark is universally used to tan leather. Its astringent properties may be turned to good account in many medical indications. An infusion of it, with a small quantity of copperas, is used by the common people to dye woollen of a purplish blue: the colour, though not very bright, is durable. The balls, or galls upon the leaves, are occasioned by a small insect with four wings, called *Cynips querci folii*, which deposits an egg in the substance of the leaf, by making a small perforation on the under surface. The ball presently begins to grow; and the egg in the center of it changes to a worm; this worm again changes to a nymph, and the nymph to the flying insect with four wings.—Horses, Cows, Sheep, and Goats eat the leaves. Swine and Deer fatten on the acorns.

The *Papilio Iris*, *Quercus*; *Phalæna Vinula*, *Quercus*, *Monacha*, *dispar*, *chrysothoræa*, *pudibunda*, *Oo*, *lubricipeda*, *quadra*, *paeta*, *Pfi*, *Bucephala*, *Lacertinaria*, *Viridana*, *Prasinana*, *Amataria*, Red arches, Broad bar, Oak bar, Scollop broad wing bar, Triple bar, Dun bar, Oak beauty, Pale Oak beauty, Maiden blush, Clouded border, Laced border, Small brindled beauty, Brindled, Hornsey carpet, Marvel de jour, July high flyer, Gold fringe, Pea green, Heart, Half mourner, Japan long horn, Golden long horn, Maid of honour, Green golden horn, Large Japan, Brussels lace, Triple lines, November, Orange band, Orange, O, Orange companion, Owl, October, Panther, Dark prominent, Red neck, Red shell, Scolloped shell, Snout, Grey sparkling, Orange sparkling, Clouded straw, Spider, Brown tail, Grey tusslock, Tissue, Blood veined, Waved umber, Mottled umber, Copper underwing, Orange upper wing, Spring usher, March close wing Moth; *Phalæna nupta* and *Vindata*; *Cynips Quercus Baccæ*, *Quercus Folii*, *Quercus Petioli*, *Quercus Gemmæ*; *Chermes Quercus*; *Aphis Quercus*; *Curculio Quercus*, feed upon it. LINN.—The timber of this sort is accounted better than that of *æ*. MILL. HUNT. *vel*.—To its diseases may be added the *Excrecentia foliosa*, *Park. p. 1390. n. 8*, and is described by him as composed of scaly leaves, and compared to the heads of Knap-weed. The buds in consequence I conjecture of their becoming the habitation of the *Cynips Querci Gemmæ*, swell to the size of a hazel nut. They are of a yellowish brown colour, the outer part being composed of the
scales

scales of the bud enlarged. The inside is composed of long woolly threads. Mr. WOODWARD.—A tree of this kind in the parish of Little Shelfley, Worcestershire, measured in circumference about 2 yards from the ground 22 feet 4 inches, and close to the ground nearly 48 feet. Mr. HOLLEFEAR.—In one growing in 1764, in Broomfield Wood, near Ludlow, Shropshire, the trunk measured 68 feet in girth, and 23 in length, and which, allowing 90 square feet for the larger branches, contained 1455 feet of timber. LIGHTFOOT.—The girth of the Green Dale Oak, near Welbeck, at 11 feet from the ground, was 38 feet; and one growing at Cowthorpe, near Wetherby, Yorkshire, measured 48 feet in circumference at 3 feet from the ground, and 78 feet close to the ground. HUNT. *vel.* with a figure of the former at ii. p. 200, and of the latter at p. 197.

1170. FA'GUS. Beech.

B. *Barren Flowers fixed to a common receptacle, somewhat like a catkin.*

EMPAL. Cup 1 leaf; bell-shaped; with 5 clefts.

BLOSS. none.

CHIVES. *Threads many; about 12; as long as the cup; bristle-shaped. Tips oblong.*

F. *Fertile Flowers in a bud, on the same tree.*

EMPAL. Cup 1 leaf; with 4 teeth; upright and sharp.

BLOSS. none.

POINT. *Seed-bud inclosed by the cup. Shafts 3; awl-shaped. Summits simple; bent back.*

S. VESS. *Capsule roundish; formed of the cup; large; beset with soft thorns; with 1 cell, and 4 valves.*

SEEDS. *Nuts 2; egg-shaped; 3-cornered; with 3 valves; tapering.*

ESS. CHAR. B. *Empal. with 5 clefts; bell-shaped. Bloss. 0. Chives 12.*

F. *Empalement with 4 teeth. Bloss. 0. Shafts 3. Capsule, which was heretofore the empalement, hedge-hogged; with 4 valves. Seeds 2.*

Obs. The barren flowers sometimes form a cylinder, at others a globe.

Chestnut FA'GUS *Castanea*. Leaves spear-shaped, with tapering ferratures, naked underneath.—

Hunt.

Hunt. evel. p. 159; *i.* p. 153. *ed.* II.—*Mill.* 84.—*Tourn.* 352, parts of fructification.—*Nat. displ.* ii. 30, at p. 290, *cop.* in *Nat. delin.* ii. 19. 3, at p. 312.—*Matth.* 211.—*Dod.* 814. 1, *repr.* in *Lob. ic.* ii. 160. 2, *obs.* 588. 1, *Ger. em.* 1442. 1, and *cop.* in *Park.* 1400. 1, and *J. B. i. b.* 121.—*Garf.* 204.—*Ger.* 1253. 1.—*Blackw.* 330.—*Fuchf.* 377, *cop.* in *Trag.* 1100.—*Lonic.* i. 31. 1.

Catkins cylindrical. *LINN.*—*Leaves* ending in a long very taper point; serratures ending in a kind of thorn. *Mr. Woodward.*

Chestnut-tree.—Woods and hedges, in Kent, common. [Burleigh Park, in great abundance. *Mr. Woodward.*] *T. May.*

Nothing will thrive under its shade.—The wood is applicable to the same uses that oak is.—If the bark is not taken off, it makes poles for espaliers, dead fences and hop yards, and pipes to convey water under ground, which will last longer than Elm or Oak.—Some of the oldest buildings in London are said to be constructed with this wood.—At Tortworth, in Gloucestershire, there is a tree 52 feet round. It is proved to have stood there ever since the year 1150, and was then so remarkable as to be called the great Chestnut of Tortworth. It fixes the boundary of the manor, and is probably near 1000 years old. *Gent. Mag.* 1766, p. 321, where there is a drawing of it. *Mr. Collinson*, the author of this account, makes no doubt of the Chestnut being a native of England, and assigns the great profit that arises from them when cut for hop-poles, as the reason why it is so rare to see large trees in the woods. The nuts are used for whitening linen cloth, and for making starch. They are roasted on small stoves in the streets by the fruit women, and in winter form a very agreeable addition to our deserts.

F A'G U S *sylvatica.* Leaves egg-shaped, indistinctly common serrated.—

Hunt. evel. p. 136; *i.* p. 131. *ed.* II.—*Matth.* 205, *cop.* in *Ger.* 1255, in fruit.—*Dod.* 832, *repr.* in *J. B. i. b.* 118.—*Lonic.* i. 33. 1.—*Speët. de la nat.* ii. 29. 1, at p. 290, *cop.* in *Nat. delin.* ii. 19. 1, at p. 312.—(*Trag.* —*Ger. em.* 1444, and *cop.* in *Park.* 1403, and also in *Lob. obs.* 587. 1107 more resembles a *Rhamnus.*)

Catkins globular. *LINN.*—*Bark* smooth, white.

Beech-tree.

Woods and hedges in a calcareous soil. *T. March, Apr.*

The tree is large and beautiful, but no verdure will flourish under its shade. It loves a fertile soil. Whilst young it is apt to suffer from exposure. It is difficult to transplant. It retains its old leaves through the winter. It bears lopping well, and may
be

be trained to form very lofty hedges.—The wood is brittle; soon decays in the air, but endures under water. It is formed into tool handles, planes, mallets, chairs, and bedsteads. Split into thin layers it is used to make scabbards for swords. It is excellent fuel, and when burnt affords a large quantity of Pot-ash.—The leaves, gathered in autumn, before they are much injured by the frosts, make infinitely better mattresses than straw or chaff, and endure for 7 or 8 years.—The nuts, or masts as they are called, when eaten, occasion giddiness and head-ache; but when well dried and powdered make wholesome bread. They are sometimes roasted and substituted for coffee. They fatten Swine, and are greedily devoured by mice, squirrels, and birds. The poor people in Silesia use the expressed oil instead of butter.

Sheep and Goats eat the leaves.

Phalena Populi, *Coryli*, *pudebunda*; *Curculio Fagi*; *Scarabeus Melolontha*; *Aphis Fagi*, feed upon both species. LINN.—A Horse kept at grass eat it. Mr. HOLLEFEAR.—In some parts of Hertfordshire, where the soil is a strong clay full of flints, these trees grow to a very large size, and are of extreme beauty. It does not relish a light soil. No tree is more beautiful when standing singly in parks or ornamental grounds, as it throws out its branches very regularly, and feathers almost to the ground. In woods or groves it grows clear of branches to a great height. Mr. WOODWARD.*

* I have sometimes amused myself on the road with attempting to discover what I would call the *distinctive characteristics of Forest Trees*. Branches zigzag, elongated, (*ramis flexuosis elongatis*) is what I have applied to the *patula Fagus* of Virgil.—I hope Mr. Kenyon, the ingenious author of the *Antiquities of Herefordshire*, will favour the public with his ideas on the subject, as expressed by the pencil. ST.

1171. CAR'PINUS. Horn-beam.

B. *Barren Flowers in a cylindrical catkin.*

EMPAL. *Common Catkin*, loosely tiled on every side; consisting of *Scales*, with a single flower in each; egg-shaped; concave; sharp; fringed.

BLOSS. none.

CHIVES. *Threads* generally 10; very small. *Tips* double; compressed; woolly at the end; with 2 valves.

F. *Fertile Flowers in an oblong catkin on the same tree.*

EMPAL. *Common Catkin*, loosely tiled; consisting of *Scales*, inclosing a single flower; spear-shaped; woolly; reflected at the end.

BLOSS. shaped like the cup; of 1 leaf; with 6 clefts; 2 of the *Segments* larger than the others.

POINT. *Seed-buds* 2; very short. *Shafts*, 2 to each seed-bud; hair-like; coloured; long. *Summits* simple.

S. VESS. none. The *Catkin* growing very large contains the seed at the base of the scales.

SEED. Nut egg-shaped; angular.

ESS. CHAR. B. *Empalement of 1 leaf; scale fringed. Bloss. o. Chives 20.*

F. *Empalement of 1 leaf; scale fringed. Bloss. o. Seed-buds 2. Shafts 2 to each. Nutt egg-shaped.*

CAR'PINUS *Bet'ulus*. Scales of the cones flat.— common

Math. 145, cop. in Ger. 1296.—Park. 1406, cop. in J. B. i. b.

146.—Hunt. vel. p. 143; i. p. 138. ed. II.—Clus. i. 55. 2,

repr. in Dod. 841, Lob. obs. 607. 2, ic. ii. 190. 1, Ger. em.

1479.—Trag. 1109, cop. in Lonic. i. 33. 2.

Chives 8 to 16. LINN.—Bark smooth, white. Leaves oval, pointed, sharply serrated.

Horn-beam Tree. Hard-beam Tree. Horse or Horn-beech Tree. [Wych Hazel in Essex. ST.]

In woods and hedges.

T. May.

It loves a poor stiff soil, on the sides of hills, is easily transplanted, and bears topping. Cattle eat the leaves, but pasturage will not flourish in its shade—The wood burns like a candle; it is very white, very tough, harder than Hawthorn, and capable of supporting a great weight. It is useful in turning, and for many implements of husbandry. It makes cogs for mill wheels; even
superior

superior to Yew.—The inner bark is much used in Scandinavia to dye yellow.—The *Phalæna brumata* and *rostralis* feed upon it.

1172. COR'YLUS. Hafel.

B. *Barren Flowers in a long catkin.*

EMPAL. *Catkin Common*, tiled on every side; cylindrical; consisting of *Scales*, each inclosing a single flower; narrower at the base, broader and more blunt at the end; bent inwards, with 3 clefts. The *Middle Segment* as long, but twice as broad as the others, and covering them.

BLOSS. none.

CHIVES. *Threads* 8; very short; fixed to the inner side of the scale of the cup. *Tips* egg-shaped; oblong; shorter than the cup; upright.

F. *Fertile Flowers at a distance from the others, on the same plant; sitting; inclosed in the bud.*

EMPAL. *Cup*, leaves 2; like leather; jagged at the edge; upright; as long as the fruit; so small as to be hardly discernible during the time of flowering.

BLOSS. none.

POINT. *Seed-bud* roundish; very small. *Shafts* 2; bristle-shaped; much longer than the cup; coloured. *Summits* simple.

S. VESS. none.

SEED. *Nut* somewhat egg-shaped; appearing as if rasped at the base; point rather flattened; and a little tapering toward the end.

ESS. CHAR. B. *Empalement of 1 leaf; with 3 clefts, like a scale, with 1 flower. Bloss. o. Chives 8.*

F. *Empalement of 2 leaves; torn. Bloss. o. Shafts 2. Nut egg-shaped.*

OBS. This genus is nearly allied to the CARPINUS.

common

COR'YLUS *Avella'na*. Props egg-shaped; blunt.—

Blackw. 293.—*Hunt. vel.* 220; i. p. 213. ed. II.—*Lonic.* i. 30.

1, cop. in *Trag.* 1096, middle right hand branch.—*Matth.* 281,

right hand lowermost branch.—*Park.* 1415. 5.—*Gars.* 233.—

Speët. de la nat. 32. 2, in ii. p. 292, and cop. in *Nat. delin.* 20.

4, in ii. p. 312.—*Lob. ic.* ii. 192. 2, repr. in *Ger. em.* 1438.

2, and cop. in *Ger.* 1250. 2.—*Fuchf.* 398.

Shafts

Shafts very red, *RELHAN*—which, being of a vivid crimson, have a very beautiful appearance in March, when the catkins expand. *Mr. WOODWARD*.—*Flowering branches*, especially those bearing the fertile flowers, set with short fine hairs terminating in globules. *Catkins* in pairs, yellowish green. *Scale*, the middle segment pointed at the end. *Tips* hairy. *Dust* yellow. *Shafts* crimson. *WITH*.—*Leaves* oval, ferrated, wrinkled. *Catkins* green, when out of flower brown.

Hafel-nut Tree.—Woods and hedges.

T. March, April.

It is frequently planted in hedges, and in coppices to make charcoal for forges. The owners cut them down in equal portions in the rotation of 16 years, and raise regular revenues out of them; often more than the rent of the land, for freeholders of 15l. or 25l. per ann. are known to make constantly 60l. a year from their woods. *Penn. tour.* 1772. p. 29. The wood is used for fishing rods, walking sticks, crates, hoops for barrels, &c. the shoots for springles to fasten down thatch. The roots are preferred where beautiful wood is required for inlaying or staining. It is a practice in Italy to put the chips of *Hafel* into turbid wine, to clear it, which it does in 24 hours: and in countries where yeast is scarce, they take the twigs of *Hafel*, and twist them together, so as to be full of chinks; these they steep in ale during its fermentation; then hang them up to dry, and when they brew again they put them into the wort instead of yeast.—Painters and engravers prepare coals for delineating their designs thus. They take pieces of *Hafel* about as thick as a man's arm, and 4 or 5 inches long, dry and then cleave them into pieces about as thick as one's finger. These they put into a large pot full of sand, and then cover the top of the pot with clay. This is exposed in a potter's oven, or any other sufficient degree of heat, and, when cooled again, the sticks are found converted into charcoal, which draws freely, and easily rubs out again.—The nuts are agreeable to most people. Squirrels live chiefly upon them. An expressed oil is obtained from them, for the use of painters.—Goats and Horses eat the leaves. Sheep and Swine refuse them.—The Brindle, Spider, and December Moths; *Phalæna Populi*, *Pavonia*, *Pfi*, *Gonostigma*; *Attelabus Coryli*; and *Curculio Nucum*, feed upon it.

Order IX.

MONADELPHIA;
THREADS UNITED.

1175. PINUS. Fir.

B. *Barren Flowers in bunches.*

EMPAL. none, but the gaping scales of the bud.

BLOSS. none.

CHIVES. *Threads* many; united below into an upright pillar, divided at the top. *Tips* upright.F. *Fertile Flowers on the same tree.*EMPAL. *Common Cone*, somewhat egg-shaped; composed of *Scales*, with 2 flowers in each; oblong; tiled; permanent; inflexible.

BLOSS. none.

POINT. *Seed-bud* very small. *Shaft* awl-shaped. *Summit* simple.S. VESS. none. The *Scales* of the cone, which before flood open, closing upon the seed.SEED. *Nut* enlarged by a membranaceous wing, larger than the seed, but smaller than the scales of the cone; oblong; on one side straight, but hunched on the other.ESS. CHAR. B. *Empalement* of 4 leaves. *Bloss.* o. *Chives* many. *Tips* naked.F. *Empalement* of the cone a scale with 2 flowers. *Bloss.* o. *Pointal* 1. *Nut* protected by a membranaceous wing.* *Several leaves from the same sheathed base.*

Scotch PINUS sylvestris. Leaves in pairs, in their first growth solitary, smooth.—

Fl. Rofs. II. f. I. i.—Mill. ill.—Blackw. 190.—Hunt. cvel. 266; i. p. 274. ed. II.—Barr. 729, the cones the best.—Tourn. 355, 356, P. 2. —Matth. 98, cop. in Ger. 1175. 2, and J. B. i. b. 253.—Dod. 860. 1, repr. in Lob. obs. 631. 2; ic. ii. 226. 2, Ger. em. 1356. 1. Cones pendant, whitish.

Highland

Highland mountains, both scattered, and in natural forests of many miles extant. LIGHTFOOT. T. May.

It flourishes best in a poor sandy soil. In a grove, the trunk becomes tall and naked; in sunny open places, branched. On rocks or bogs, it seldom attains a large size. In black soil it becomes diseased, and in chalky land it dies. Sometimes it will thrive near running, but never near stagnant waters. None but the terminating buds send forth branches, therefore it will not bear the least clipping. The roots spread very near to the surface of the earth, all but the central root which grows perpendicularly downwards; and if this is broken off, or interrupted in its passage by rocks, the stem ceases to shoot upwards and the tree for ever remains a dwarf. Upon this account it is apt to suffer by transplanting.—This tree furnishes us with the best red or yellow deal. It is smooth, light, and easily cloven. The bark will tan leather.—The inhabitants of the North of Europe make bread from this tree in the following manner. They choose a tree whose trunk is even, for these contain the least resin, and strip off the bark in the spring when it separates most readily. This they first dry gently in the shade; then in a greater heat; and reduce it to powder. With this powder they mix a small quantity of corn-meal, and with water knead it into bread. This they eat, not only in years of scarcity, but at other times, from an apprehension that long disuse might render it disagreeable to them. Their children are very fond of the fresh bark in the spring time, either shaved with a knife or grated with a rasp—the young shoots distilled afford a fragrant essential oil.—Sheep and Goats are not fond of it; Horses refuse it.—It affords nourishment to the *Phalana Pini*, *quadra*; *Curculio Pini*, and *Cimex Abietis*.*

* *Pinus Picea*, and *P. Abies* are inserted in *R. syn.* and the *Fl. angl.* and *Hunt. vel.* as natives of the mountains of Scotland, but only on hear-say evidence. Mr. Lightfoot assures us that the *P. sylvestris* is the only species found wild in that country. ST.—The 36 fine trees of *P. Picea*, mentioned by Plot and Ray as growing near Newport in Shropshire, are now no more. WITH.

Class XXII.

D I O E C I A.

CHIVES and POINTALS Distinct.

IN the preceding class the *Flowers with only Chives*, and the *Flowers with only Pointals* were found upon the *same* plant; but in this they are upon *Different* plants.

All the plants therefore of this Class are necessarily either BARREN or FERTILE; the Flowers of the former containing only *Chives*; those of the latter, only *Pointals*.

Both sorts are propagated from seeds, the product of the fertile plants.

B. signifies the barren, and

F. the fertile flowers.

Order II.

DIANDRIA; II. CHIVES.

1201. SA'LIX..... B. Catkin scaly. Blofs. o. Chives 2;
rarely more.
F. Catkin scaly. Blofs. o. Summits
2. Caps. 2 valves. Seeds downy.

Order III.

TRIANDRIA; III. CHIVES.

1202. EM'PETRUM.. B. Cup with 3 divisions. Blofs. 3
petals.
F. Cup with 3 divisions. Blofs. 3
petals. Shafts 9. Berry 9 feeds.
† Carex dioica. Bryonia alba. Valeriana dioica.

Order IV.

TETRANDRIA; IV. CHIVES.

1210. HIPPOPH'AE. B. Cup with 2 divisions. Blofs. o.
F. Cup with 2 clefts. Blofs. o.
Point. 1. Berry, 1 feed, with a
lopped feed-coat.
1209. VIS'CUM..... B. Cup with 4 divisions. Blofs. o.
F. Cup 4 leaves. Blofs. o. Sum-
mit blunt. Berry, 1 feed: be-
neath.
1211. MYRI'CA..... B. Catkin scaly. Blofs. o.
F. Catkin scaly. Blofs. o. Shafts 2.
Berry, 1 feed.
† Rhamnus catharticus. Urtica dioica. Ilex aquifolium.

Order V.

PENTANDRIA; V. CHIVES.

1221. HU'MULUS. B. Cup 5 leaves. Bloss. o.
 F. Cup 1 leaf. Bloss. o. Shafts 2.
 Seeds winged by the cup.
 † Ribes alpinum. Salix pentandra.

Order VI.

HEXANDRIA; VI. CHIVES.

1224. TA'MUS. B. Cup 6 leaves. Bloss. o.
 F. Cup 6 leaves. Bloss. o. Shaft
 with 3 clefts. Berry, 3 cells;
 beneath.
 † Asparagus officinalis. (See Roth. 145.) Rumex acetosa.
 Rumex acetosella.

Order VII.

OCTANDRIA; VIII. CHIVES.

1228. PO'PULUS. B. Catkin ragged. Bloss. o. Honey-
 cup egg-shaped. Chives from 8
 to 16.
 F. Catkin ragged. Bloss. o. Sum-
 mit with 4 clefts. Caps. 2 valves.
 Seeds feathered.
 1229. RHODI'OLA. B. Cup with 4 divisions. Bloss. 4
 petals.
 F. Cup with 4 divisions. Bloss. o.
 Pointals 4. Caps. 4. Seeds many.

Order

*Order VIII.**ENNEANDRIA; IX. CHIVES.*

1230. MERCURIA'LIS. B. Cup 3 leaves. Blofs. o. Chives
from 9 to 12.

F. Cup 3 leaves. Blofs. o. Shafts
2. Caps. 2 berries.

1231. HYDRO'CHARIS. B. Cup 3 leaves. Blofs. 3 petals.

F. Cup 3 leaves. Blofs. 3 petals.
Shafts 6. Caps. beneath: 6 cells.

*Order IX.**DECANDRIA; X. CHIVES.*

† *Lychnis dioica.* *Cucubalus otites.*

*Order XI.**ICOSANDRIA; XX. CHIVES.*

† *Rubus Chamæmorus.*

*Order XII.**POLYANDRIA; MANY CHIVES.*

† *Mercurialis.* *Stratiotes Aloides.*

Order XIII.

M O N A D E L P H I A;
T H R E A D S U N I T E D.

1240. JUNIP'ERUS..... B. Catkin. Blofs. o. Chives 3.
F. Cup with 3 divifions. Blofs. 3
petals. Shafts 3. Berry beneath;
3 feeds; 3 tubercles formed by the
cup.
1241. TAX'US. B. Cup 4 leaves. Blofs. o. Tips
with 8 clefts.
F. Cup 4 leaves. Blofs. o. Sum-
mit 1. Berry 1 feed; naked at
the end.

Order XIV.

S Y N G E N E S I A; T I P S U N I T E D.

1246. RUS'CUS..... B. Cup 6 leaves. Blofs. o. Chives 5.
F. Cup 6 leaves. Blofs. o. Point. 1.
Berry, 3 cells, 2 feeds.
1194. BRYO'NIA..... B. Cup with 5 teeth. Blofs. with
5 divifions. Chives 3.
F. Cup with 5 teeth. Blofs. with
5 divifions. Shaft with 3 clefts;
fruit a Berry.

Order II.

DIANDRIA; II. CHIVES.

1201. SA'LIX. Willow.

B. Barren Flowers.

EMPAL. Common Catkin oblong ; tiled on every side ; inclosed by a fence formed of a bud, which is composed of

Scales, inclosing a single flower ; oblong ; flat ; expanding.

BLOSS. Petals none.

Honey-cup a cylindrical gland ; very small ; lopped ; containing honey ; placed in the centre of the flower.

CHIVES. Threads 2 ; straight ; thread-shaped ; longer than the cup. Tips double ; with 4 cells.

F. Fertile Flowers.

EMPAL. Catkin as above.

Scales as above.

BLOSS. none.

POINT. Seed-bud egg-shaped ; tapering into a Shaft hardly distinct from the seed-bud, rather longer than the scale of the empalement. Summits 2 ; cloven ; upright.

S. VESS. Capsule egg-awl-shaped ; with 1 cell, and 2 valves. Valves rolling back.

SEEDS numerous ; egg-shaped ; very small ; crowned with a simple hairy Feather.

ESS. CHAR. B. Catkin with scales. Bloss. o. A gland secreting honey at the base.

F. Catkin with scales. Bloss. o. Shaft cloven. Caps. of 1 cell, and 2 valves. Seeds with down.

OBS. Chives in some species 3 or 5 ; unequal in length. In the *S. hermaphroditica* the chives and pointals are within the same empalement.—There are frequently large excrescences upon the branches, leaves, and leaf-stalks of Willows, which are the habi-

tations of different species of *Cynips*.—Whoever desires to shade a walk with Willows, should set those which bear only chives in the catkins, or else they will soon multiply so as to form a thicket instead of a walk. The same observation holds good of the Poplar.—Bees are very fond of the flowers.

* *Leaves smooth; serrated.*

Shining S A' L I X *hermaphroditica*. Leaves serrated; smooth. Chives 2; in the same flower with the pointals.—

Agrees with *S. pentandra* as follows. *Leaves* convoluted, yellowish, often 6 in each bud; serratures blunt, glandular. *Catkins* woolly, of the same size and habit. Differs as follows. *Branches* pale reddish hue, not purplish. *Leaves*, veins of the upper surface sunk in, not elevated. *Glands* at the base of the leaf-stalks protuberating. *Flowers* earlier and the gall-like excrescences more numerous than in *S. triandra*. In the year 1754, there were found in place of the chives only the rudiments of tips sitting one on each side of the honey-cup, appearing like 3 glands. LINN.—*Leaves*, the younger cottony. *Spikes* short, alternate. *Threads* 2, somewhat longer than the pointal. *Seed-bud* woolly. *Shaft* short. *Summits* 2. ROTH. ii. 109.

Moist hedges. Plentifully about Osten (Ashton according to Hudson) Cumberland, 12 or 14 miles from Pereth, on the road to Newcastle. RAY.—[Mr. Hudson conjectures this plant of Ray to be *S. hermaphroditica*. Mr. Curtis in his cat. p. 84, doubts, and I think with reason, of its being a native. It is to be wished that the Botanists of the North would ascertain the species described by Ray as growing in the place above mentioned. ST.]

T. March, April.

Smooth S A' L I X *trian'dra*. Leaves serrated, smooth. Chives 3. LINN.—and sometimes 2 in the same catkin. HUDS.

Gmel. i. 34. 3.

Very nearly allied to *S. amygdalina*. LINN.—*Trunk* tree-like, of a middling stature. *Branches* rod-like, smooth. *Leaves* alternate, on leaf-stalks, spear-shaped, serrated, pointed, naked, sea-green underneath, 1 to 3 inches long. *Leaf-stalks* short, channelled, naked, with and without leaf-scales. *Leaf-scales* 2, on the sides, roundish, toothed. *Glands* 2, at the end of the leaf-stalk. *Catkins* on fruit-stalks, strap-shaped, an inch long. *Barren Flowers*: *Catkin* strap-shaped, an inch long, woollyish. *Threads* very long. *Tips* roundish, yellow. *Fertile Flowers*: *Catkin* smoothish. *Fruit-stalk* leafy. HUDS.—Generally a *shrub*, but sometimes a considerable

ble tree. The barren plant very frequent, the fertile one I have seen only once. Mr. Wood.

Salix folio amygdalino utrinque aurito corticem abjiciens. R. syn. 448?
HUDS.—This plant of Ray is referred by Du Roi to the *S. auriculata* of Mill. n. 9, considering it to be a variety of *S. triandra*. Miller, however, regards it as distinct, and characterises it as follows. Leaves serrated, smooth, spear-shaped, all alternate. ST.

Woods, hedges and banks of rivers. [About Leeds. Mr. Wood.
—Lakenham near Norwich. Mr. Crowe.] S. or T. April.

The bark in doses of 1 or 2 drams will cure agues. *Med. Comm.* v. 298.

S A' L I X *pentan'dra*. Leaves serrated, smooth. *sweet*
Chives 5.—

Fl. lapp. 8. 2, leaf.—*Gmel.* i. 34. 1, leaves too narrow as Mr. Lightf. very justly observes.—*J. B. i. b.* 216. 1.—*Fl. dan.* 943, certainly not the plant, at least not what has been called so by us, the leaves being much too small, and not resembling ours in shape. Mr. Woodward.

From 6 to 10 feet high. Branches yellowish purple. Buds consisting of 2 opposite valves, sending out both catkins and leaves. Leaves yellowish green; the teeth at the edges pour out a yellow gum, so that put fresh into a book and compressed, there remains as many yellow dots on the paper as there are teeth in the leaf. Catkins very yellow. LINN.—sweet scented. LIGHTF.—Leaves glossy, in hot weather exhaling an odoriferous perfume. CURT.—Honey-cups 3, yellowish brown, 2 next the spike-stalk, and the 3rd next the scale. Threads unequal, hairy towards the base. ST.—12 feet high or more. WITH. ST.

Bay-leaved Willow.—Woods and hedges. In the North of England, and Coomb Wood, Surry.—About Kilnsay and Carr End Wensledale, where it is the most common species. CURT.—[Near Bungay, Suffolk, frequent. Mr. Woodward.—On the side of a wet ditch, on the out side of some gardens without the East gate, Stafford. ST.] S. April.

The wood crackles greatly in the fire—The branches are cut to make springles.—Sheep and Goats eat it.—The leaves dried afford a yellow dye. LINN. ST.—Much used in Yorkshire for making the larger sort of baskets. CURT.

S A' L I X *vitelli'na*. Leaves serrated, egg-shaped, yellow pointed, smooth; serratures gristly. Leaf-stalks with callous dots.—

Munt. 12.—*Fuchs.* 335, cop. in *J. B. i. b.* 214. 3.

Perhaps

Perhaps if this was neither cultivated nor cut, it might degenerate into *S. alba*. HALL.

Ofier holts, frequent.

T. May.

The shoots are used by crate and basket makers.

almond leaved SA'LIX *amygdali'na*. Leaves serrated, smooth, spear-shaped, on leaf-stalks. Props in shape of an irregular square.—

Park. 1430. 5, cop. in J. B. i. b. 215. 1.

Very closely allied to *S. triandra*, but the leaves broader and different. The *leaf-scales* vary very much in this genus. Differs from *S. fragilis* as follows. A shrub. Branches red. LINN.

Willow beds and banks of rivers.

S. Apr. May.

Horses and Goats eat it.

crack SA'LIX *frag'ilis*. Leaves serrated, smooth, egg-spear-shaped. Leaf-stalks with glandular teeth.—

Linn. fl. lapp. 8. b.—Hunt. eval. 245, the branch with leaves; i. p. 238. ed. II.

A tall tree. The branches, if struck with a finger, break off at the shoot of the present year. Fruit-stalks with 2 or 3 leaves at the base, often falling off. LINN.

Woods, hedges, and banks of rivers. [Near Shottisham, Norf. Mr. CROWE.]

T. Apr. May.

It will thrive in most kinds of soil, if they are sufficiently moist. It is a quick grower, and bears cropping. The White Sattin Moth sometimes eats all its leaves.—The bark in doses of 1 or 2 drams will cure agues. *Med. comm. v. 298.*

purple SA'LIX *purpu'rea*. Leaves serrated, smooth, spear-shaped, the lower ones opposite.—

Fuchs. 334, cop. in J. B. i. b. 2, the serratures too like hairs.

A shrub, somewhat taller than a man. Branches rod-like, exceedingly tough, in the spring deep purple, often of a blood coral red without. Inner Bark of a brimstone colour. Leaf-buds both above and beneath the flower-buds, each containing 3 leaves applied transversely to the stem. Flower-buds beneath the ends of the branches. Catkins cylindrical, with 2 leaves. Empalement brown, hairy. LINN.

Ofier beds. [Thorpe meadows near Norwich. Mr. CROWE.]

S. Apr. May.

Baskets, cradles, and all sorts of twig-work, are made of its long, slender, and flexible shoots.

SA'LIX *Helix*. Leaves ferrated, smooth, spear-strap-^{rose} shaped, the upper opposite, oblique, LINN.—*some very entire, usually very entire at the base.* LIGHTFOOT.

Ger. em. 1389. 2.—J. B. i. b. 213. 2.

Branches angular. Leaves when fully grown sea-green. LINN.—
Chive 1. Haller and Du Roi doubt whether it be different from *S. purpurea*. REICH.—Bark yellowish. Twigs purple, not cylindrical. Catkin compact, downy, with black scales.

Hedges, watery places, and sides of rivers. T. Apr. May.

SA'LIX *myrsinites*. Leaves ferrated, smooth, egg-whortleleaved shaped, veined.—

Fl. lapp. 8. f, a leaf; and 7. 6.

Highland mountains. LIGHTFOOT.—On the slope of a high hill between Kilnsay and Arncliffe, Yorkshire. CURT. S. May, June.

SA'LIX *herbacea*. Leaves ferrated, smooth, circular. *herbaceous*

Fl. lapp. 7. 3, barren plant—8. h, a leaf.—Fl. dan. 117.—Fl. lapp.

7. 4, fertile plant.—Pluk. 436. 7.

The smallest tree I am acquainted with. Branches hardly an inch long, and with seldom more than 3 leaves. Leaves nicked at the base. Leaf-scales none. Fruit-stalk from the same bud with the leaves. Pointals smooth. Flowers yellow. LINN.

On the sides of Snowdon, and on the mountains of Westmoreland, Yorkshire, and Scotland. [Among the highest rocks of Snowdon. Mr. WOOD.—Summit of Skiddow, and other mountains in the North. Mr. WOODWARD.] S. May, June.

** Leaves smooth, very entire.

SA'LIX *reticulata*. Leaves very entire, smooth, *net-work* egg-shaped, blunt, LINN.—*obscurely hairy.* LINN.

J. B. i. b. 217, *S. pum. fol. rot.*—Fl. dan. 212, the single leaf the best.—Fl. lapp. 7. 1, barren plant; and 2, fertile plant.—ib. 8. 1.

A little larger than *S. herbacea*. Stem purplish, scarcely a finger's length. Buds nicked at the end, with 3 leaves. Leaves on leaf-stalks, thick, large compared to the stem, obscurely hairy when fresh, above green, wrinkled and shining, sea-green, and with a net-work of veins underneath, the veins at first red, at last green. Spike from the same bud with the leaves, blue. Props none. Caps. with very fine whitish soft hairs. LINN.

Mountains of Wales, Yorksh. Cumberl. and Scotland. S. May.

SA'LIX *rubra*. Leaves very entire, smooth, strap-red spear-shaped. HUDS.

Branches

Branches greenish, tending to red. *Leaves* like those of *S. viminalis*, but wholly green. *Buds* reddish. *Catkins* at first red, afterwards greenish yellow. *RAY*.

Willow beds, but not common. Other holt between Maidenhead and Windsor, on the side of the river near Salisbury.

T. April, May.

The twigs are much sought after by basket makers, gardeners, &c. *R. syn.*

*** *Leaves very entire, woolly.*

round-eared SA'LIX *aurita*. Leaves very entire, woolly on both sides, inversely egg-shaped, furnished with appendages.—
Fl. lapp. 8. y, a leaf.

Salix caprea δ HUDS.

Woods and hedges. Dry mountainous heaths. HUDS.—[Frequent about Bungay, Suffolk. Mr. WOODW.] S. May, June.

The shoots are slender, and tolerably flexible.

downy SA'LIX *lana'ta*. Leaves woolly on both sides, roundish, pointed? —

Fl. lapp. 7. 7; and 8. x, a leaf.

Vallies in the Highlands. Finlarig at the head of Loch Tay. Mr. STUART in *fl. scot.* S. May.

Lapland SA'LIX *lappo'num*. Leaves very entire, hairy, spear-shaped.—

Fl. lapp. 8. t.

Highland mountains. Grey-chaillich and Mal-ghyrdy Breadalbane. Mr. STUART. S. June.

sand SA'LIX *arena'ria*. Leaves entire, egg-shaped, pointed, somewhat woolly above, cottony underneath?

Gmel. i. 36. 1.—Ray 19. 3.—*Fl. lapp. 8. o, and q, leaves rather too much spear-shaped:—(Fl. dan. 197, does not agree with our plant.)* LIGHTF.—(*Hall. stirp. 5. 2, at p. 155, and repr. in hist. 14. 2, at i. p. 195, is expressly excluded in the syst. veg. ed. xiii. and xiv. and Mant. pl. but through inattention retained by the editor of the syst. pl.*)

Of the height of a man. Stems upright, not much branched, ash-coloured or red. Leaves alternate, upright, thick, above green, wrinkled, in some plants smooth, in others (*Fl. lapp. 8. o.*) the veins sprinkled with very fine, scattered, just perceptible hairs, underneath with strong veins, of a snowy white, and covered with
a thick

a thick down. *Leaf-scales* in some plants (Fl. lapp. 8. q.) at the base of the leaf-stalks. LINN.—Probably a variety of *S. repens*. LIGHTF.

Salix repens γ HUDS.

Sea shores amongst loose blowing sand, as in Cantire, between Macrianeish and Bar. LIGHTF.—On the slope of an high hill between Kilnsay and Arncliffe, Yorkshire. CURT. S. May.

SALIX *repens*. Leaves very entire, spear-shaped, *creeping* nearly bare on both sides. Stem creeping. LINN.—Leaves very entire, spear-shaped, underneath woolly and shining HUDS.*

Clus. i. 85, repr. in Dod. 843. 2, Ger. em. 1391. 6, and cop. in Park. 1433. 2 and 3, Ger. 1205. 6, and J. B. i. b. 216. 2.

The smallest of our common Willows, and indeed scarcely larger than *S. herbacea*, the points only of the branches appearing above ground. Stem of the thickness of a finger. Branches rod-like, drooping; the lesser branches sprinkled with white soft hairs. Leaves egg-shaped, or egg-oblong, smooth on both sides, sea-green underneath, on leaf-stalks, the lowermost transversely opposite, and somewhat hairy. Leaf-scales none. Catkins lateral. Capsules reddish. LINN.

Salix repens β Hudson.—*S. humilis*, Ger. em. 1391. ST.

Putney-Heath, in a wood by West Wickham, and Addington near Croydon. [Boggy meadows frequent. Mr. WOODWARD.] S. April.

β *Salix repens* α HUDS.

Clus. i. 86. 2, repr. in Ger. em. 1391. 8, cop. in Park. 1435. 3.

Either this or a variety of it, with leaves silvery on both sides, was found near Sandwich, Kent. R. syn.

SALIX *fusca*. Leaves very entire, egg-shaped, *brown* downy underneath.—

Fl. lapp. 8. r.—Lob. adv. 423, repr. in ic. ii. 138. 1, and cop. in J. B. i. b. 217. 1.

A small shrub, very low, creeping. Leaves very small, blunt, nearly sitting, alternate, smooth and green, and at length of a blackish green above, underneath sea-green and shining, with very fine scattered white silky hairs. Catkins without leaves, several, at the end of the last year's shoots, generally turning blackish. Buds of 1 valve, divided. Scales brown. Chives yellowish. *Salix arenaria*, *incubacea*, *repens*, and *fusca*, are very closely allied. LINN.

Salix

* Including *S. arenaria*, *fusca*, and *rosmarinifolia*, as varieties. ST.

Salix repens δ HUDS.—(Clus. i. 86. 1, repr. in Dod. 844, Ger. em. 1391. 7, and cop. in Park. 1434. 2, and J. B. i. b. 214. 1; and Ger. 1205. 7, are also referred to by Mr. Hudson, but appear to me to be *S. incubacea*, which I am inclined to believe will prove to be a native species.)

Heaths and turfy bogs.

S. May.

rosemary-
leaved

S A' L I X *rosmarinifolia*. Leaves very entire, spear-shaped, quite straight, fitting, cottony underneath. Lob. obs. 568. 1, repr. in ic. ii. 137. 2, and cop. in Park. 1435. 4, and J. B. i. b. 214. 2.

Leaves strap-shaped, pointed, underneath shining, filky, woolly. Leaf-scales none. LINN.—Twigs remarkably tough. Approaches nearest to *S. vitellina*. CURT.

Salix repens ε HUDS.

Low fields. LINN.—Found amongst Mr. J. Sherard's dried plants, the place not named. R. syn. On the edge of a rivulet which runs into Semer Water, Wensledale, Yorkshire. CURT.

* * * * Leaves somewhat ferrated; woolly.

Sallow

S A' L I X *caprea*. Leaves egg-shaped; wrinkled; downy underneath; waved, with little teeth towards the end. LINN.—elliptical, somewhat ferrated, woolly above. HUDS.*

Fl. lupp. 8. f. a leaf.—Hunt. evel. 245. branches with catkins; i. p. 238. ed. II.—Fl. dan. 245.—Ger. 1203. 3, cop. in Ger. em. 1390. 3, and Park. 1432. 1.

Sometimes becomes a tree of considerable size. Branches when young palish, and downy. Buds, the lower producing leaves, the upper catkins. Leaves slightly taper-pointed each way, above green and scarce sensibly downy, underneath pale green with a very thin woolliness; the edge marked with some notches not obvious unless carefully examined, but from the middle downy, evidently waved. LINN.—Catkins not leafy. Bark brown, in the younger branches woolly, in the older smooth. Branches tough. Leaves often 3 inches long, and 2 broad. Leaf-scales 2, semi-circular, ferrated, falling off. Flower buds of 1 valve, with 2 and 3 unequal divisions. Catkins thick. Scales brown, woolly. Chives sweet-scented, cloven half way down. Capsules hairy, filky. Du Roi.—Branches tough, cylindrical, smooth, reddish. Leaves oblong-egg-shaped, a little woolly underneath. Leaf-stalks considerably shorter than half the breadth of the leaves, nearly cylindrical, with a gland on each just above the base.

* Including *S. aurita* as a variety. WITH.

base. *Leaf-scales* minute, 1 on each, at the base of the leaf-stalk.

WITH.

Salix caprea γ Hudson.—*S. caprea*, Mill. (St.)

Mountain Osier. MILL.

Woods and hedges, RAY—in dry land and high situations. MILL.

S. or T. April, May.

The branches being brittle, are unfit for basket-makers, but it is frequently cultivated for fuel. MILL.—This requires a dryer soil than any of the other species, for it will thrive upon the driest hills. It may be topped every second or third year.—The wood is smooth, and soft. It is converted into charcoal for making gun-powder and drawing pencils.—The Laplanders and inhabitants of the Hebrides use the bark for tanning leather, and the Swedes contrive to manufacture it into a kind of gloves. They give a decoction of the leaves for the heart-burn.—The flowers are particularly grateful to Bees, and the leaves and shoots are eaten by Horses, Cows, Goats and Sheep. The *Papilio Iris*, the high-flyer Moth; the scarce Silver-line-Moth, and the Copper underwing Moth feed upon it. LINN.—About the time of Palm-Sunday the children in the neighbourhood of London, Newcastle-underline, and probably many other parts of the island, gather the flowering branches, calling them palms. ST.

β HUDS.—Leaves long and pointed. RAY. ST.—Frequent about Oxford. R. *syn.*

Lob. ic. ii. 137. 1, repr. in Ger. em. 1390. 4, and cop. in Park 1432. 2.

γ Leaves elliptical, taper-pointed. ST.

Ger. 1203. 4.—Gars. 509.—J. B. i. b. 215. 3.—Trag. 1078, cap. in Lon. i. 25. 2. a.

δ HUDS.—*S. aurita*, which see.

ε HUDS.—Leaves small, rounder.

Hedges near Chiffelhurst are some trees of considerable height.

R. *syn.*—Dry mountainous heaths. HUDS.

Leaves oblong-egg-shaped, taper-pointed, wrinkled, cottony underneath. MILL.

S. acuminata. MILL.—*S. caprea* α HUDS.

Common Sallow.—Hedges, commonly such as are moist. RAY.

S A' L I X *viminalis*. Leaves mostly very entire, spear-strap-shaped, very long, pointed, silky underneath. Branches rod-like. *Osier*

J. B. i. b. 212. 2.—Fuchf. 336.—(Munt. 12. is S. vitellina, and Hunt. evel. 245, S. fragilis.)

A slender

A slender and very tall *shrub*. *Leaf* and *flower-buds* distinct as in *S. caprea*. *Leaves* rolled back at the edges before they are unfolded. LINN.—*Leaves* above deep shining green, underneath greyish, closely beset with very fine short hairs lying close to the substance of the leaf. *Leaf-stalks* about half as long as the breadth of the leaf. A small tongue-shaped glandular substance fixed to the stem, just above the insertion of the leaf-stalk, in the upper part of which there is a hollow to receive it. *Leaf-scales* minute, 1 on each side the base of each leaf-stalk. WITH.

Salix folio longissimo. R. fyn. 450. ST.

Osier.—Willow-beds, woods and hedges. S. April, May.

The branches are much used for making hoops and the larger sorts of baskets. It is often planted to prevent the banks of rivers from being washed away by the force of the current; and it forms a hedge very useful in keeping off winds.—Horses, Cows, Sheep and Goats eat it. LINN.—Putcheons and wheels for catching Eels, and bird-cages are made of the twigs. ST.

white S A' L I X *alba*. Leaves spear-shaped, taper-pointed, serrated, downy on both sides; the lowermost serratures glandular.—

Blackw. 327.—*Math.* 199, *imit.* in *Dod.* 843. 1, which repr. in *Lob. obs.* 567. 2, *ic.* ii. 136. 2, *Ger. em.* 1389. 1, and cop. in *Park.* 1430. 1.—*Gars.* 508.—*Ger.* 1203. 1.—*J. B.* i. b. 212. 1.—*Trag.* 1077, cop. in *Lon.* i. 25. 2. b.

This and *S. fragilis* are the largest of the species. LINN.—*Bark* smooth and whitish.

Salix arborea angustifolia alba vulgaris. *Park.* 1430. (ST.)

Common Willow.—Woods and hedges. P. April.

It loves a moist and open situation; grows quick, and bears lopping.—The Rev. Mr. Stone, in the *Phil. Trans.* liii. p. 195. gives us an account of the great efficacy of the bark of this tree in curing intermitting Fevers. He gathers the bark in summer, when it is full of sap; dries it by a gentle heat, and gives a dram of it powdered every four hours between the fits. In a few obstinate cases he mixed it with one fifth part of Peruvian bark. It is remarkable that intermittents are most prevalent in wet countries; and this tree grows naturally in such situations. Whilst the Peruvian bark remained at its usual moderate price it was hardly worth while to seek for a substitute; but now its price is more than doubled, and the supply from South America hardly equal to the consumption, we may expect to find it dearer and more adulterated every year. The *White Willow Bark* is therefore likely to become an object worth the attention of physicians, and if its

success

success upon a more enlarged scale of practice proves equal to Mr. Stone's experiments, the world will be much indebted to that gentleman for his communication. The bark of *S. triandra* and *fragilis* have the same properties.—This bark will tan leather.—Horses, Cows, Sheep and Goats eat it.

The different species of it support the following insects. *Papilio Antiopa*, and *Polychloros*; *Sphinx Ocellata*, *Populi*; *Phalæna Quercifolia*, *Rubi*, *Lanestris*, *Vinula*, Dismal Moth, *Phalæna Salicis*, *Phalæna Buccifraga*, *Monacha*, *Ziczac*, *Coffus*, Willow red-under-wing Moth, *Phalæna Paeta*, *Citrago*, Cream bordered Pea-green Moth, *Phalæna Salicella*, Bushy Prominent Moth, *Phalæna Pavonia*, *Libatrix*, *Pfi*, Willow Beauty Moth; *Tenthredo Lutea*, *Caprea*, *Rustica*; *Ichneumon Glomeratus*; *Aphis Salicis*, *Chrysomela Polita*, *Chrysomela Sericea*; *Curculio Nebulosus*; *Coccinella* 14 *Guttatus*, *Cicada Cornuta*.

The species of this genus are very difficult to make out. Soils of various kinds, as marshy, sandy, mountainous, and warm, have effected such wonderful changes on the species that Botanists have been often at a loss to what species they should refer several individual plants. Add to this that the descriptions are altogether imperfect and unscientific. Their history therefore must be begun anew, in which case let the names of the old authors be rejected, lest dubious synonyms should occasion a confusion among plants in themselves distinct; and let the species be described in Local Histories and Literary Collections, holding in view the following circumstances. 1. *Buds*, whether of 1 or more valves. 2. The *disposition and folding of the leaves* within the bud. 3. *Catkins*, whether from the same or a distinct bud, above or below the leaves. 4. *Leaves* serrated or very entire; their *surfaces* naked or woolly. 5. *Chives*, their number. 6. Whether *Trees*, *Shrubs*, or creeping. LINN.—In consequence of the above remarks I examined pretty attentively the flowers of all the species that I could meet with, in hopes that the structure of the parts of fructification, and in particular of the honey-cup, might afford some more certain marks of essential specific difference, marking the trees with a knife that I might ascertain to what species the flowers which I had examined belonged. But being absent from home during the remainder of the year I lost the opportunity of completing my observations. I purpose, however, to resume them, unless Mr. Curtis shall soon favour the world with the result of his observations on the numerous species which I know he has cultivated in his Botanic Garden at Lambeth, since the year 1778. ST.

Order III.

TRIANDRIA; III. CHIVES.

1202. EM'PETRUM. Crow-berry.

B. Barren Flowers.

EMPAL. Cup with 3 divisions. Segments egg-shaped; permanent.

BLOSS. Petals 3; oblong-egg-shaped; narrowest at the base; larger than the cup; shrivelling.

CHIVES. Threads 3; hair-like; very long; hanging down. Tips upright; short; cloven.

F. Fertile Flowers.

EMPAL. Cup as above.

BLOSS. Petals as above.

POINT. Seed-bud depressed. Shaft hardly any. Summits 9; bent back, and expanding.

S. VESS. Berry round and flat; depressed; larger than the cup; with 1 cell.

SEEDS 9; placed in a jointed circle; hunched on one side; angular on the other.

ESS. CHAR. B. Empal. with three divisions. Bloss. of 3 petals. Chives long.

F. Empal. with 3 divisions. Bloss. of 3 petals. Shafts 9. Berry with 9 seeds.

OBS. Sometimes, though very rarely, flowers have been found containing both chives and pointals.

black EM'PETRUM nigrum. Trailing.—

Mill. ill.—Tourn. 421. 3.—Matth. 154.—Clus. i. 45. 2, repr. in Ger. em. 1383. 9, and cop in Park. 1485. 2.—Cam. epit. 77, cop. in J. B. i. a. 526.

A small shrub, drooping. Bark, the outer scaling off, brown; the inner yellow. Branches rough from the remains of the leaf-stalks. Bud terminating, of 5 leaves; the leaves membranaceous, hairy at the edge, producing 5 little branches, 4 of which are in a whorl. Leaves in fours, nearly 3-square, with a white strap-shaped keel, on leaf-stalks. Flowers from the bosom of the leaves, fitting, solitary,

solitary, surrounded by a floral-leaf, sometimes barren and fertile on distinct plants, sometimes on the same plant, and sometimes with chives and pointals in the same flower. *Floral-leaf* with 3 divisions, forming a kind of outer cup. *Empalement* whitish. *Petals* and *Threads* purple. *Tips* brownish black. *Fertile plant* similar to the Barren one. *Stem* redder. *Leaves* deep green, in fives. *Point* black. *Berries* brownish black. Prof. Jacquin has lately found several plants with flowers containing chives and pointals. I formerly met with a single plant of that kind, but it was only 1 in ten thousand. LINN.—*Stems* trailing, much branched, the lower part naked, and rough from the remains of the fallen leaves. *Leaves* nearly strap-shaped, often bent back. Mr. WOODWARD.—*Leaves* rounded at the end, flat above, somewhat downy at the edge, convex underneath, with a white line along the middle, hollow within, expanding, generally in threes, but often scattered. *Leaf-stalks* flattened, very short, brown, laid-to. *Empalement* double; the outer of 3 leaves with a 4th at the base; leaves egg-shaped, concave, upright, reddish, membranaceous and finely serrated at the edge; the inner as long again, whitish with red here and there, segments roundish egg-shaped. ST.—*Leaves* fitting, smooth above, glandular underneath, woolly at the edges, and rolled back so that the edges meet on the under side. *Empalement*, segments concave, very minutely serrated. *Petals* dark purplish red. *Tips* full flesh-colour. WITH.

(Lob. ic. 621. Bauh. hist. i. p. 526. to be erased in Syst. pl. being an erroneous addition of Reichard's.) ST.

Black-berried Heath. Crow-berries. Crake-berries.

Moist mountains and high heaths, both in the driest and most barren rocky soils, and in bogs and moorish grounds. Staffordsh. Derbysh. and the Northern counties, frequent. S. Apr. May.

The Highlanders frequently eat the berries, as do sometimes children, but they are no very desirable fruit, and if taken in large quantities occasion head-ache—Grouse feed upon them—Boiled with alum they afford a dark purple dye.

Goats are not fond of it; Cows, Sheep and Horses refuse it.

Order IV.

TETRANDRIA; IV. CHIVES.

1209. VIS'CUM. Miffeltoe.

B. Barren Flowers.

EMPAL. Cup with 4 divisions; leaves egg-shaped; equal.
BLOSS. none.CHIVES 4. Threads none. Tips oblong; tapering; 1
fixed to each leaf of the cup.

F. Fertile Flowers mostly growing opposite the others.

EMPAL. Cup, leaves 4; egg-shaped; small; sitting on
the seed-bud; deciduous.

BLOSS. none.

POINT. Seed-bud beneath; oblong; 3-edged; indistinct-
ly crowned with a border with 4 clefts. Shaft none.
Summit blunt; a little notched.

S. VESS. Berry globular; with 1 cell; smooth.

SEED single; inversely heart-shaped; compressed; blunt;
fleshy.ESS. CHAR. B. Empal. with 4 divisions. Bloss. o. Threads
o. Tips growing to the empalement.F. Empal. of 4 leaves; above. Shaft o. Bloss. o. Berry
with 1 seed. Seed heart-shaped.white VIS'CUM album. Leaves spear-shaped, blunt.
Stem forked. Spikes in the bosom of the leaves.—Mill. ill.—Sheldr. 20.—Blackw. 184.—Fuchs. 329, abr. in Lon. i.
55. 2.—Matth. 806.—Cam. epit. 555.—Trag. 949.—Dod. 826,
repr. in Lob. obs. 361. 1; ic. i. 636. 2, Ger. em. 1350. 1, and
cop. in Park. 1393. 1.—Gars. 628.—Ger. 1168. 1.A singular parasitical evergreen shrub without a root. The barren
plant opposite to the fertile one. LINN.—The Root insinuates its
fibres into the woody substance on the tree on which it grows.
Blossom greenish white. Berries whitish.Miffeltoe. Miffel.—Mostly on Apple trees, also on the Pear,
Hawthorn, Service, Oak, Hazel, Maple, Ash, Lime-tree, Wil-
low, Elm, &c. RAY.—Rarely on the Oak. HUNT. evel.—[New
near

near Boxley Hill, Kent, not far from Kit Coity House. Mr. T. F. HILL.—*Hawthorn* in Burleigh Park. *Apple-tree* in Norfolk and Suffolk. *Ash* a single instance. Mr. WOODWARD.—In Derbysh. and observed only on Oaks, but in Worcestersh. and Herefordsh. only on Apple-trees, or sometimes on *Limes*, and in one instance on a Plane-tree, near Lord Coventry's menagerie, Croome, Worcestershire. ST.] S. May.

Birdlime may be made from the berries and from the bark—The Mistletoe Bird, the Fieldfare, and the Thrush eat the berries, the seeds of which pass through them unchanged, and along with their excrements adhere to the branches of trees, where they vegetate. Some authors observing that the roots are always inserted on the under side of the branches, deny this method of propagation; but they do not recollect that the rains will soon wash them into that situation, though it is highly probable that they first fell upon the upper side of the branch—No art hath yet been invented to make these plants take root in the earth.—Sheep eat it very greedily, and it is frequently cut off the trees for them in hard weather. It is said to preserve them from the rot. Mr. HOLLEFEAR.—If the berries when fully ripe, be rubbed on the smooth bark of almost any tree they will adhere closely and produce plants the following winter. In the garden of Mr. Collins of Knarelsborough, are many large plants of it produced in this manner on the dwarf Apple-tree. HUNT. *ewel*.—It was formerly in great repute as a remedy for Epileptic and other complaints; but it is now very much disregarded; and indeed its sensible qualities promise but little.

1210. HIPPOPH'AE. Sallow-thorn.

B. Barren Flowers.

EMPAL. Cup, leaf 1; divided into 2 parts; forming 2 valves; undivided. Segments circular; blunt; concave; upright, but the points approaching; open at the sides.

BLOSS. none.

CHIVES. Threads 4; very short. Tips oblong; angular; almost as long as the cup.

F. Fertile Flowers.

EMPAL. Cup, leaf 1; oblong egg-shaped; tubular; resembling a club; cloven at the rim; deciduous.

BLOSS. none.

POINT. Seed-bud roundish; small. Shaft simple; very short. Summit rather thick; oblong; upright; twice as long as the cup.

S. VESS. Berry globular; with 1 cell.

SEED single; roundish.

ESS. CHAR. B. Empal. with 2 divisions. Bloss. o.

F. Empal. with 2 clefts. Bloss. o. Shaft 1. Berry with 1 seed.

common HIPPOPH'AE *Rhamnoi'des*. Leaves spear-shaped.—

Cam. epit. 81, cop. in J. B. i. b. 33.—Dod. 755. 1.—Fl. dan. 265.—Gies. 38.—Matth. 156, cop. in Lon. ii. 8. 2.—Clus. i. 110. 1, repr. in Lob. obs. 598. 3; ic. ii. 180. 1, Ger. em. 1334. 2, and cop. in Park. 1006. 1.

Root creeping. Leaves sprinkled with scales; scales crowded, target-shaped, fringed, pale. Flowers solitary, appearing before the leaves, generally abortive, unless growing in its natural situation. Barren flowers below the leaves, between a branch and a bud. Bud of 1 valve, permanent, as long as the flower. Fertile flowers sitting, in the bosom of the lowermost leaves. LINN.—Leaves strap-spear-shaped, very entire, green above, with whitish scales, white underneath, with a strong prominent mid-rib, which has a corresponding furrow on the upper surface, edges usually somewhat bent back. Mr. WOODWARD.—Shrub 8 feet high. Branches widely spreading, straight, stiff, thorny at the ends; the lesser numerous, scattered, short, expanding. Barren flowers nearly sitting, somewhat spiked, disposed in 4 rows along the lesser branches. Fruit-stalks cylindrical, very short. Floral-leaves oblong, concave, expanding, as long

long as the empalement, reddish brown, somewhat fleshy, falling off with the flowers, sprinkled with scales similar to those of the leaves; circular, skinny, reddish brown. *Empalement*, leaves circular-egg-shaped, sprinkled on the out-side with scales. *Chives* upright, inserted in the bottom of the empalement. *Tips* with 2 cells, and 4 valves, brownish yellow, after shedding their dust stiff and angular. *Dust* nearly globular, angular, brownish yellow, opaque, when moistened with water globular, transparent. *SR.* ..

Sea Buckthorn. Sallow-thorn.—Sea shore, in sand. Lindsey coast, Lincolnshire; Sandwich, Deal and Folkestone, Kent; Whitby and Lyth, Yorkshire.—Isle of Sheepy. [Cley and Sherringham Cliffs, Norfolk. *MR. CROWE.*—Between Yarmouth and Winterton. *MR. WOODWARD.*] S. April, May.

Cows refuse it; Goats, Sheep and Horses eat it. The berries are very acid, with an austere vinous flavour, and the fishermen of the gulph of Bothnia prepare a rob from them, which added to fresh fish imparts a very grateful flavour. In funny sandy situations it is planted for hedges. *LINN.*

1211. MYRICA. Gale.

B. Barren Flowers.

EMPAL. Catkin oblong egg-shaped; tiled on every side; limber; consisting of Scales inclosing a single flower; crescent-shaped; tapering to a blunt point; concave. *Individual Cup*, none.

BLOSS. none.

CHIVES. Threads 4; sometimes, but rarely 6; thread-shaped; short; upright. *Tips* large; double; with the lobes cloven.

F. Fertile Flowers.

EMPAL. as above.

BLOSS. none.

POINT. Seed-bud somewhat egg-shaped. *Shafts* 2; thread-shaped; longer than the cup. *Summits* simple.

S. VESS. Berry of 1 cell.

SEED single.

ESS. CHAR. B. Scales of the Catkins crescent-shaped. *Bloss.* o.

F. Scales of the Catkins crescent-shaped. *Bloss.* o. *Shafts* 2. Berry with 1 seed.

Obs. In *M. Gale* the fruit is a dry berry, or rather a leather-like coat, compressed at the end, and formed of three lobes.

sweet MYRICA Gale. Leaves spear-shaped; somewhat ferrated. Stem shrub-like.—

Fl. dan. 327.—Ger. 1228.—Gars. 397, leaves too blunt.—Dod. 780. 2, repr. in Ger. em. 1414.—J. B. i. b. 225.—Lob. adv. 417, repr. in ic. ii. 110. 2.—Lob. obs. 547. 2, cop. in Park. 1451. 5.

Stems smooth, rust-coloured, sprinkled with white dots. Flower-buds above the leaf-buds, at the ends of the branches, whence as soon as the fructification is compleated, the end of the branch dies, the leaf-buds which are on the sides shoot out, and the stem becomes compound. Buds composed of 9 leafy, shining scales; the first nearly opposite, very short, rectangularly pointed; the rest egg-shaped, blunt. Leaves convoluted, sprinkled with resinous points, ferrated towards the end, on leaf-stalks. Flowers appearing before the leaves. Fertile spike oblong, composed of 5 rows, and in each row 5 berries. Berries thickish, roundish, angular, taper pointed, with 3 shallow clefts, a small tooth being fixed to each, sprinkled with golden resinous dots. LINN.—Catkins barren and fertile on the same plant. In other specimens from the same spot the different catkins on distinct plants. ST.

Gale. Goule. Sweet Willow. Dutch Myrtle.—[Burlt or the emetic plant; and Gwyryddling or the green plant, by the Welsh.]

Bogs, marshy and moorish ground in Cornwall and Devonshire, Highlands and Hebrides, Fens of the Isle of Ely, about Wareham Dorsetshire, by the rivulet between Shap and Auno Well Westmorland. [Plentifully on the banks of Derwentwater, Cumberland. On the drier parts of the wet moors near Whitgift, Yorkshire, 4 miles from the confluence of Ouse and Trent. Mr. WOODWARD.—Ranaugh and Derfingham Moors, Norfolk. Messrs. PITCHFORD and CROWE.—Fens of Cambridgeshire, and near Ramsey in Huntingdonshire. In the North very common. Mr. WOODWARD.—On the North side of Aqualate Mere, Staffordsh. WILK.—The specimens of barren and fertile Catkins on the same plant, on a heath between Killin and the mountain Ben More, Scotland. ST.]

S. May.

The northern nations formerly used this plant instead of hops; but unless it be boiled a long time it is apt to occasion head-ache—The catkins boiled in water throw up a waxy scum, which gathered in sufficient quantity would make candles. From another species of this plant, the *Myrica cerifera* the myrtle candles are prepared.—It is used to tan calf-skins.—Horses and Goats eat it; Sheep and Cows refuse it.—Gathered in the autumn it dyes wool yellow. LINN.—The Welsh make use of it for the same purpose. They also lay branches of it upon and under their beds to keep off fleas

fleas and moths, and give it as a vermifuge in powder and infusion, and apply it also externally to the abdomen. PENN. wales ii. p. 147.

Order V.

PENTANDRIA; V. CHIVES.

1221. HUMULUS. Hop.

B. Barren Flowers.

EMPAL. Cup, leaves 5; oblong; concave; blunt.

BLOSS. none.

CHIVES. Threads 5; hair-like; very short. Tips oblong.

F. Fertile Flowers.

EMPAL. General fence with 4 clefts; sharp.

Partial fence, leaves 4; egg-shaped; inclosing 8 florets, each of which is furnished with a

Cup of 1 leaf; egg-shaped; very large; flat on the outer side; approaching at the base; obliquely expanding; entire.

BLOSS. none.

POINT. Seed-bud very small. Shafts 2; awl-shaped; bent back, and standing wide. Summits sharp.

S. VESS. none. The Cup closing at the base contains the seed.

SEED 1; roundish; covered by a coat.

ESS. CHAR. B. Empal. of 5 leaves. Bloss. o.

F. Empal. of 1 leaf; obliquely expanding; entire. Bloss. o.

Shafts 2. Seed 1; within a leafy empalement.

HUMULUS lupulus.—

common

Mill. ill.—Gars. 355.—Blackw. 536. a. b.—Clus. i. 126. 2, repr. in Dod. 409. 1, Lob. obs. 347. 2; ic. i. 629. 1, Ger. em. 885, and cop. in Park. 177, and Ger. 737. 1, fertile plant.—Cam. epit. 933, fertile plant; 934, barren plant.—Fuchf. 164, ill. abr. in. J. B. ii. 151.—Trag. 812.—Matth. 1213.—Ger. 737.—J. B. ii. 152.—Lon. i. 208. 3.

Stems climbing. Leaves lobed, serrated. Flowers greenish yellow. Hops.—In hedges.

P. June.

If

If the hop-yards were covered with stones, the plants would be less liable to suffer from the honey-dew or from the Otter-Moth; for the honey-dew is the excrement of a species of *Aphis*, but these insects seldom increase so as to endanger the plant, unless it is in a weak condition; and the larvæ of the Otter-Moth at the roots, first occasion the plant to be sickly. Now when the hop grows wild in stony places and in fissures of rocks, where the moth cannot penetrate to deposit its eggs, the hop is never known to suffer from the honey-dew.—The flowers of the fertile plants are very generally infused in wort or boiled along with it to prevent the ale or beer growing sour.—The young shoots are eaten early in the spring as *Asparagus*, and are sold under the name of Hop-tops—Strong cloth is made in Sweden from the stalks. For this purpose they must be gathered in autumn, soaked in water all winter; and in March, after being dried in a stove they are dressed like flax.—Horses, Cows, sheep, Goats and Swine eat it.—The *Papilio Jo*, *C. album*, the Otter, *Phalæna Humuli* and *Rostralis* live upon it.—It will dye wool yellow.—What is that electrical murmur like very distant thunder when the hop-poles are shaken by wind? LINN.

Soil and cultivation occasion some varieties, as the *Garlic*, *Long White*, and *Oval Hop*; but for the common purposes of brewing they are distinguished as *Kentish* or *Worcestershire Hops*.—A decoction of the Roots, or 20 or 30 grains of the extract is said to be sudorific and to answer the purposes of the *Sarsaparilla*.

Order VI.

HEXANDRIA; VI. CHIVES.

1224. TA'MUS. Lady-seal.

B. Barren Flowers.

EMPAL. Cup with 6 divisions; leaves egg-spear-shaped; expanding towards the top.

BLOSS. none.

CHIVES. Threads 6; simple; shorter than the cup. Tips notched at the end.

F. Fertile Flowers.

EMPAL. Cup, leaf 1; with 6 divisions; bell-shaped; expanding. Segments spear-shaped; superior; falling off.

BLOSS. Petals none.

Honey-cup, an oblong dot at the base of each segment of the cup, on the inner side.

POINT. Seed-bud beneath; oblong-egg-shaped; large; smooth. Shaft cylindrical, as long as the cup. Summits 3; reflected; notched at the end; sharp.

S. VESS. Berry egg-shaped; with 3 cells.

SEEDS 2; globular.

ESS. CHAR. B. Empal. with 6 divisions. Bloss, 0.

F. Empal. with 6 divisions. Bloss, 0. Shaft with 3 clefts. Berry with 3 cells; beneath. Seeds 2.

TA'MUS *communis*. Leaves heart-shaped; un- Bryony divided.—

Mill. ill.—Blackw. 457.—Giseck. 22.—Dod. 401, repr. in Lob. obs. 344; ic. i. 625. 1, Ger. em. 871, and cop in Park. 178. 6, J. B. ii. 148, and H. ox. i. 1. 6.—Ger. 721. 1.—Math. 1285.—Gars. 182.—Cam. epit. 988.

Bunches lateral, in the barren plant longer, in the fertile plant shorter than the leaf-stalks. SCOP.—Stems trailing. Leaves alternate, heart-shaped at the base, suddenly narrowed into spear-shaped, and taper-pointed at the end, dark green, smooth, and shining. Barren flowers in bunches. Bunches loose, from the bosom of, and longer than the leaves. Empalement: segments, 3 pointed, somewhat

what bent back, the other 3 blunt and more expanding, giving the whole a triangular out-line. *Fertile flowers* few. *Bunches* branched, much shorter than the leaves. *Barren plant*: *Bunches* compound, the lowermost branch sometimes longer than the leaf-stalk, at right angles with the spike-stalk. *Empalement* of 1 leaf, bell-shaped; segments bent back. *Threads* almost connected at the base, the ends bent back. *Tips* roundish. *Fertile plant*: *Empalement*, tube surrounding the seed-bud, shrivelling. *ST.*—The barren plants; *Leaves* varying from kidney to heart-shaped and triangularly spear-shaped. *WITH.*—*Root* very large. *Stems* twining. *Blossoms* greenish. *Berries* red.

Black Briony.—Thickets and Hedges.

P. June.

The young shoots are good eating when dressed like sparagus—The root is acrid and stimulating.—Horses will not eat this plant.

Order VII.

OCTANDRIA; VIII. CHIVES.

1228. POP'ULUS. Poplar.

B. Barren Flowers.

EMPAL. *Common Catkin* oblong; loosely tiled; cylindrical; consisting of *Scales*, inclosing a single flower; oblong; flat; ragged at the edge.

BLOSS. *Petals* none.

Honey-cup 1 leaf; turban-shaped beneath; tubular; ending at the top obliquely, in an egg-shaped border.

CHIVES. *Threads* 8; extremely short. *Tips* 4-edged; large.

F. Fertile Flowers.

EMPAL. *Catkin* and *Scales* as above.

BLOSS. *Petals* none.

Honey-cup as above.

POINT. *Seed-bud* egg-shaped, but tapering. *Shaft* hardly discernible. *Summit* with 4 clefts.

S. VESS. *Capsule* egg-shaped; with 2 cells. *Valves* 2.

SEEDS numerous; egg-shaped; furnished with a hair-like *Feather*.

ESS. CHAR.

Ess. CHAR. B. Empal. of the Catkin a torn scale. Blofs. pear-shaped; oblique; entire.

F. Empalement and blossom as in the barren flowers. Summit with 4 clefts. Capsule with 2 cells. Seeds many; downy.

POP'ULUS *al'ba*. Leaves nearly circular, toothed *white* and angular; cottony underneath, LINN.—*more nearly triangular than circular*. WITH.

Hunt. *evel*. 208; i. p. 201. *ed.* II.—*Speët. de la Nat.* 31. 2, at ii. p. 292, *cop.* in *Nat. delin.* 20. 2, at ii. p. 312.—*Matth.* 136, *cop.* in *Cam. epit.* 65, with the addition of a flowering branch, which *cop.* in *J. B. i. b.* 160. 1, and abridged in *Ger.* 1301. 1. —*Dod.* 835, *repr.* in *Ger. em.* 1486. 1; and *cop.* in *Park.* 1410. 1, and imitated in *Lob. obs.* 609. 1, which *repr.* in *ic.* ii. 193. 1. —*Garf.* 467. A. a.—(*Blackw.* 548, is *P. nigra*.)

Tree very tall. Leaves without glands, either at the base or serratures. Flowers exactly similar to those of *P. tremula*. LINN.—Leaves smooth, and blackish green above, with a white thick cotton underneath. RAY. WITH.—*Leaf-stalks* flattened, and grooved on each side. WITH.

Abele Tree.—Hedges, woods, and near brooks. T. March.

It loves low situations, and flourishes best in clay. It grows quick, and bears cropping, but it is unfavourable to pasturage.—The wood is soft, white, and stringy, and makes good wainscoting, being but little subject to swell or shrink. Floors, laths, packing boxes, and turners ware are made of it.

Horses, Sheep, and Goats eat it. Cows are not fond of it.

β Leaves smaller. RAY.

Lob. ic. ii. 193. 2, *repr.* in *Ger. em.* 1487. 5, and *cop.* in *Park.* 1410. 2, and *J. B. i. b.* 160. 2.

No place of growth mentioned either by Ray, or Mr. Lightfoot who cites Gerard's figure. ST.

POP'ULUS *tre'mula*. Leaves circular, toothed and *trembling* angular, smooth on both sides.—

Blackw. 243. 2.—*Matth.* 139, neatly *cop.* in *Cam. epit.* 67, with the addition of a flowering branch, which *re-cop.* in *J. B. i. b.* 163, with the teeth nearly obliterated; roughly *cop.* in *Ger.* 1302. 3; and *cop.* in *Dod.* 836. 2, with the addition of a trunk, which *repr.* in *Lob. obs.* 610. 1; *ic.* ii. 194. 2, *Ger. em.* 1487. 3, and *cop.* in *Park.* 1411. 4.—*Trag.* 1083, *cop.* in *Lonic.* i. 26. 2, with the leaves made too pointed.

Leaves

Leaves rolled inwards, with 2 glands running one into the other on the inner side above the base. LINN.—*Leaf-stalks* flattened towards the end, whence the trembling of its leaves. GOUAN.—The same takes place in *S. alba* and *nigra*. The plane of the leaf-stalks is at right angles to that of the leaves, which allows the leaves a much freer motion than could have taken place had their planes been parallel. ST.

Asp. Aspen. Aspen Tree.

Moist woods, and in boggy ground.

T. Mar. Apr.

It will grow in all situations, and in all soils, but worst in clay. It impoverishes the land; its leaves destroy the grass, and the numerous shoots of the roots spread so near the surface of the earth, that they will not permit any thing else to grow. It is easily transplanted.—The wood is extremely light, white, smooth, woolly, soft; durable in the air.—The bark is the principal food of Beavers. The bark of the young trees is made into torches.—The leaves and leaf-stalks sometimes are set with red globular substances, about as large as a Pea, which are the nests of the *Tipula juniperina*.

Sheep and Goats eat it. Horses and Swine refuse it.

black POP'ULUS *ni'gra*. Leaves trowel-shaped, tapering to a point, ferrated.—

Blackw. 548, and 248. 1.—*Lonic.* i. 26. 1.—*Matth.* 137, *cop. in Cam. epit.* 66, with the addition of a flowering branch and catkin, which *cop. in Park.* 1410. 3, and *J. B.* i. b. 155, and with the addition of a trunk in *Lob. obs.* 609. 2, repr. in *ic.* ii. 194. 1, and also in *Dod.* 836. 1, which repr. in *Ger. em.* 1486. 2.—*Garf.* 467. B. b.—*Ger.* 1301. 2.—*Trag.* 1080.

Leaves without any glands at the base, but the ferratures glandular on the inner side. *Chives* as many again as in *P. tremula*. LINN.—*Chives* 16. LEERS.—*Leaf-stalks* yellowish.

Black Poplar.—Near rivers and wet shady places. T. March.

It loves a moist black soil; grows rapidly, and bears cropping.—The wood is not apt to splinter.—The bark being light like cork, serves to support the nets of fishermen.—The red substances like berries upon the leaf-stalks, as large as a cherry, hunched on one side, and gaping on the other, are occasioned by an insect called the *Aphis Bursaria*.—Horses, Cows, Sheep, and Goats eat it.

The several species support the following insects: *Sphinx Populi*; *Phalæna Vinula*, *populi*, *fascelina*, Orange under-wing Moth; *Aphis Populi*; *Chrysomela Polita*, *Populi*; *Curculio Tortrix*; *Cimex Populi*; *Sphinx Apiformis*.

1229. RHODIOLA. Rose-wort.

B. Barren Flowers.

EMPAL. *Cup*, divisions 4; concave; upright; blunt; permanent.

BLOSS. *Petals* 4; oblong; blunt; upright, but expanding; twice as long as the cup; deciduous.

Honey-cups 4; upright; notched at the end; shorter than the cup.

CHIVES. *Threads* 8; awl-shaped; longer than the blossom. *Tips* simple.

POINT. *Seed-buds* 4; oblong; tapering. *Shafts* and *Summits* imperfect.

S. VESS. barren.

F. Fertile Flowers.

EMPAL. *Cup* as above.

BLOSS. *Petals* 4; rude; upright; blunt; equal in height to the cup; permanent.

Honey-cups as above.

POINT. *Seed-buds* 4; oblong; tapering; ending in straight simple *Shafts*. *Summits* blunt.

S. VESS. *Capsules* 4-horned; opening inwards.

SEEDS many; roundish.

ESS. CHAR. B. Empal. with 4 divisions. Blossom of 4 petals.

F. Empalement with 4 divisions. Blofs. o. Honey-cups 4.

Pointals 4. Capsules 4, with many seeds.

RHODIOLA rosea.—

yellow

Fl. dan. 183.—Blackw. 586.—Matth. 1024.—Clus. i. 65. 1, repr. in Dod. 347. 2, Lob. obs. 212. 3; ic. i. 391. 1, Ger. em. 532, and cop. in Park. 727, H. ox. xii. 10. 8, and abridged in Pet. 42. 2.—Ger. 426.—Cam. epit. 769.—Kuchf. 665, cop. in Trag. 913, not in flower, and in J. B. iii. 683, with the addition of flowers.—Lonic. i. 62. 1.

A fertile plant cultivated by itself in a garden produced small unproductive seeds. LINN.—Honey-cups 5. Chives 6, 8, or 12
FABRIC. SCOP.—Stems numerous, simple, 4 to 10 inches high, cylindrical, smooth, hollow. Leaves numerous, growing without order, egg-shaped, egg-spear-shaped, and in the younger plants spear-shaped, upwards distantly serrated, towards the base very entire, fleshy, sea-green, sometimes tinged with purple. Flowers yellow. Bunch terminating, close, branched. Chives much longer than

than the blossom. *Shafts* very short, pointing outwards, permanent. Habit that of *Sedum Telephium*. *Root* white. *Stem* simple, upright, leafy. *Leaves* serrated. *Blossoms* terminating, yellow.

Rose-wort. Rose-root.—Mountains of Westmoreland, Cumberland, Yorkshire, and Wales. [On a rock on the summit of Ingleborough, to the North West; and on a mountain called the Old Man at Conistone Water Head. Mr. WOODWARD.] P. June, July.

The root has the fragrance of a Rose, particularly when dried; but, cultivated in a garden, it loses most of its sweetness.

Goats and Sheep eat it. Cows and Swine refuse it.

Order VIII.

ENNEANDRIA; IX. CHIVES.

1230. MERCURIA' LIS. Mercury.

B. Barren Flowers.

EMPAL. *Cup* with 3 divisions; *segments* egg-spear-shaped; concave; expanding.

BLOSS. none.

CHIVES. *Threads* 9 or 12; hair-like; straight; as long as the cup. *Tips* globular; double.

F. Fertile Flowers.

EMPAL. *Cup* as above.

BLOSS. none.

Honey-cups 2 awl-shaped pointed substances; 1 placed on each side the seed-bud, and pressed into its furrows.

POINT. *Seed-bud* roundish; compressed; with a hollow furrow on each side; rough with hairs. *Shafts* 2; bent back; horned; rough with hair. *Summit* sharp; bent back.

S. VESS. *Capsule* roundish; purse-shaped; double; with 2 cells.

SEEDS solitary; roundish.

ESS. CHAR. B. *Empalement* with 3 divisions. *Bloss.* o. *Chives* 9 or 12. *Tips* globular; double.

F. *Empalement* with 3 divisions. *Bloss.* o. *Shafts* 2. *Caps.* twin-fruited; with 2 cells, and 1 seed.

MERCU-

MERCURIA' LIS *peren'nis*. Stem undivided. *dog's*
Leaves rough.—

Curt. ii. 14.—Walc. barren plant.—Fl. dan. 400.—Mill. ill.—Cam. epit. 999, barren plant; 998, fertile plant.—Fuchs. 444, cop. in J. B. ii. 979. 1, and abr. in Trag. 191, Lon. i. 136. 3, and Pet. 1. 6, fertile plant; cop. with the addition of barren spikes on the same plant! in Dod. 659. 1, repr. in Lob. obs. 132. 1; ic. i. 260. 1, Ger. em. 333. 1, and cop. in Park. 296. 2; which, on the other hand abridged, and the fertile flowers omitted in Pet. 1. 5.—J. B. ii. 979. 2, barren plant.—H. ox. v. 34. 3, fertile, and 4, barren plant.—Matth. 1299.

Roots creeping. Stem upright, simple, thickest at the joints, cylindrical, with 2 projecting ridges not as usually running down from the leaf-stalks, but from the joint between them, and terminating in the bosoms of the pair below. Leaves in opposite pairs, alternately from each side of the stem; oval-spear-shaped, wrinkled, ferrated, pale green, the lower small and distant, the upper approaching. Leaf-stalks short, furrowed, corresponding with the ridges on the stem. Barren and fertile plants rarely intermixed, each sort usually growing in large patches, whence it is probable that this plant, which propagates itself so much by roots, rarely produces perfect seeds. Barren spikes longer and the fertile ones shorter than the leaves. Capsules hairy and somewhat warty. Mr. WOODWARD.—Honey-cups as long as the seed-bud. Honey-cups in general are a kind of appendage to the blossom, but here they are its sole substitute. Tips yellowish, double, each of 1 cell. Dust oval spear-shaped, opaque, yellowish, when moistened with water globular and transparent. ST.—Barren plant: Leaves spear-egg-shaped. Leaf-stalks short, channelled. Spikes opposite, from the bosom of the upper leaves. Fertile plant: Flowers on fruit-stalks, generally solitary. Shafts rough on the inner side with semi-transparent tubercles. Are not what are here called the Honey-cups rudiments of imperfect chives? WITH.

Dog's Mercury.—Woods and ditch banks. P. April, May.

It is noxious to Sheep, and deleterious to Man. Ray relates the case of a Man, his Wife and three Children, who experienced highly deleterious effects from eating it fried with bacon.—Sheep and Goats eat it; Cows and Horses refuse it.—In drying it turns blue, LINN.—and steeped in water it affords a fine deep blue colour, but which unhappily is destructible both by acids and alkalis, and recoverable by no means that I have been able to discover. ST.

French MERCURIA'LIS *an'nua*. Stem branching. Leaves smooth. Flowers in spikes.—

B. Curt. v. 57. 2.—Cam. epit. 996.—Fuchs. 475, *cop. in* J. B. ii. 977. 2, and the upper part of *Trag.* 190.—Ger. 262. 1.—Dod. 658. 1, repr. in *Lob. obs.* 131. 1; *ic.* i. 259. 1, Ger. em. 332. 1, and *cop. in* Park. 295, *Pet.* 1. 8, and *abr. in* H. ox. v. 34. row. 1. 1.—Blackw. 164. 4, a portion of the stem, &c.—Lon. i. 136. 2.—Gars. 382.—Matth. 1297.

F. Curt. v. 57. 1.—Fuchs. 473, *cop. in* J. B. ii. 977. 3, and the lower part of *Trag.* 190.—Blackw. 162. 2, and 3, good; 1, flowers good, leaves too heart-shaped.—Cam. epit. 997.—Dod. 658. 2, repr. in *Lob. obs.* 131. 2; *ic.* i. 259. 2, Ger. em. 332. 2, and *cop. in* *Pet.* 1. 7, and *abr. in* H. ox. v. 34. row 1. 2.—Ger. 262. 2.—Gars. 382.—Matth. 1298.

Honey-cups none. LIGHTF. RELH.—Stem, the spaces between the knots thickened. RELH.—Stem and Branches smooth, frequently tinged with purple. Leaves spear-shaped, sometimes oval-spear-shaped, distantly serrated. Flowers more numerous than those of *M. perennis*. Seed-vessels smaller, hairy. Mr. WOODWARD.

French Mercury.—Waste places and dunghills about towns and villages. [Near Norwich, and at Lowestoft, Suffolk. Mr. WOODWARD.]

A. August, September.

The whole plant is mucilaginous, and was formerly much employed as an emollient, but is now disregarded.

The small old Gentlewoman Moth, and *Phalæna Meticulosa*, feed upon it. LINN.—The seeds taste like those of Hemp. ST.

1231. HYDROCHARIS. Frog-bit.

B. Barren Flowers.

EMPAL. Sheath of 2 leaves; oblong; inclosing 3 flowers.

Cup proper; of 3 leaves; oblong-egg-shaped; concave; membranaceous at the edge.

BLOSS. Petals 3; circular; flat; large.

CHIVES. Threads 9; awl-shaped; upright; disposed in 3 rows; the middlemost row in the centre sends out an awl-shaped little pillar, resembling a shaft, from the inner side of the base. The other 2 rows are connected at the base, so that the outer and inner thread adhere together. Tips simple.

POINT. Seed-bud only a rudiment; in the centre of the flower.

F. Fertile Flowers.

EMPAL. Sheath none. Flowers solitary.

Cup as above; superior.

BLOSS. as above.

POINT. Seed-bud beneath; roundish. Shafts 6, as long as the cup; compressed; cloven and furrowed. Summits cloven; tapering.

S. VESS. Capsule like leather; roundish; with 6 cells.

SEEDS numerous; very small; roundish.

ESS. CHAR. B. Sheath of 2 leaves. Empalement with 3 clefts. Petals 3. Threads, the 3 inner bearing shafts.

F. Empalement, clefts 3. Petals 3. Shafts 6. Capsules beneath; cells 6; seeds many.

HYDROCHARIS Morfus-Ra'næ.—

common

Curt. iii. 28.—Fl. dan. 878.—Dod. 583. 1, repr. in Ger. em.

818. f. 2, and cop. in Park. 1252. 4, fertile plant.—Dod. 583. 2, repr. in Lob. ic. i. 596. 1.—J. B. iii. 773. 1.

It bears buds or rather bubbles. Bud pendant, on a very long thread-like leaf-stalk, consisting of 2 convoluted scales resembling leaf-scales, within which are contained the leaves, becoming gradually larger, tiled and convoluted. LINN.—Root of many long thick white fibres. Leaves round-kidney-shaped, very entire, smooth, fleshy, and, on removing the outer skin when the leaves are dried, a most beautiful close net-work of veins is seen. Mr. WOODWARD.—Leaves kidney-shaped, thick, smooth, reddish underneath. Blossom white.

Frog-bit.—Slow streams and wet ditches.

P. June.

β Blossoms double, sweet-scented. LINN.

Ditch on the side of Audrey Causey near a wooden bridge in the Isle of Ely. *R. syn.*

Order XIII.

MONADELPHIA; THREADS UNITED.

1240. JUNIP'ERUS. Juniper.

B. *Barren Flowers.*

EMPAL. *Catkin* conical; consisting of a common spike-stalk, in which 3 opposite flowers are placed in a triple row, and a 10th flower at the end. At the base of each flower is a

Scale; broad; short; fixed sideways to a little pillar like a foot-stalk.

BLOSS. none.

CHIVES. *Threads*, in the *terminating* flower 3; awl-shaped; united at the bottom into one body; in the *lateral* flowers hardly perceptible. *Tips* 3; distinct in the *terminating* flower; but in the *lateral* flowers fixed to the scale of the empalement.

F. *Fertile Flowers.*

EMPAL. *Cup* with 3 divisions; very small; growing to the seed-bud; permanent.

BLOSS. *Petals* 3; stiff; sharp; permanent.

POINT. *Seed-bud* beneath. *Shafts* 3; simple. *Summits* simple.

S. VESS. *Berry* fleshy; roundish; marked in the lower part with 3 opposite tubercles which were formerly the cup; and marked at the top by 3 little teeth which were originally the petals.

SEEDS 3; bony; convex on one side; angular on the other; oblong.

ESS. CHAR. B. *Empalement* of the catkin composed of scales. Bloss. o. Chives 3.

F. *Empalement* with 3 divisions. *Petals* 3. *Shafts* 3. *Berry* with 3 seeds, with the 3 tubercles of the unequal empalement.

JUNIP.

JUNIP'ERUS *commu'nis*. Leaves in threes, ex- common
panding; sharp-pointed; longer than the berry.—

Ludw. 189.—*Mill. ill.*—*Blackw.* 187.—*Sheldr.* 70.—*Gars.* 88.—

Tourn. 361. 2.—*Matth.* 121.—*Ger.* 1189. 1.—*Fuchs.* 88, *cop.*

in *J. B. i. b.* 293.—*Trag.* 1074.—*Lon.* i. 24.—*Cam. epit.* 53.

—*Dod.* 852, *repr. in Lob. obs.* 628. 2; *ic. ii.* 222. 2, *Ger. em.*

1372. 1, and *cop. in Park.* 1029. 1.

Tips under the lateral scales often 5. *LEERS.*—Berry continuing
2 years, green, at length blackish purple. *RELH.*—*Bark* reddish.
Berries bluish black.

Juniper-tree.—*Heaths.* [Near Berkhamstead, Hertfordshire,
and abundantly on a common between Blenheim and Ditchley,
Oxfordshire. *Mr. WOODWARD.*] *S. May.*

It grows in fertile or in barren soils; on hills or in valleys; in
open sandy plains, or in moist and close woods. On the sides of
hills its trunk grows long; but on the tops of rocky mountains and
on bogs it is little better than a shrub. *LINN.*—It is easily trans-
planted and it bears cropping. Grass will not grow beneath it,
but the *Avena pratensis* destroys it.—The wood is hard and durable.
The bark may be made into ropes—The berries are two years in
ripening. When bruised they afford a pleasant diuretic liquor, but
it is not easy to prevent its growing sour. It is esteemed a good
antiseptic. The Swedes prepare an extract from the berries
which some people eat for breakfast, but it is fitter for a medicine
than for food. The spirit impregnated with the essential oil of
these berries is every where known by the name of *Gin*, or *Juniper*
water—The berries sometimes appear in an uncommon form,
the leaves of the cup grow double the usual size; approaching,
but not closing; and the 3 petals fit exactly close, so as to keep the
air from the *Tipulæ juniperi* which inhabit them—*Gum Sandarach*,
more commonly called *Pounce*, is the product of this tree.

Horses, Sheep and Goats eat it.—*Cimex juniperinus*, *Thrips junip-*
erina and *Coccinella 9-punctata* feed upon it.

β *Huds.*—Leaves broader and thicker. Berries longer, more
oval than spherical. *LIGHTF.*—

J. B. i. b. 302. 1.—*Clus.* i. 38. 2, *repr. in Ger. em.* 1372. 3.

On the summit of Snowdon, and the mountains of Westmorland.
On Kendal Fell. *R. syn.*

1241. TAX'US. Yew

B. Barren Flowers.

EMPAL. none, except the *Bud*, which resembles a cup with 3 or 4 leaves.

BLOSS. none.

CHIVES. *Threads* numerous; united below into a column longer than the bud. *Tips* depressed; blunt at the edge; with 8 clefts; opening all round at the base; and having shed their dust, flat; target-shaped; and the clefts in the edge become more remarkable.

F. Fertile Flowers.

EMPAL. as above.

BLOSS. none.

POINT. *Seed-bud* egg-shaped; but tapering. *Shaft* none. *Summit* blunt.

S. VESS. *Berry* an expansion of the receptacle; succulent and globular; open at the end; coloured. In course of time it grows dry; decays, and disappears.

SEED single; egg-oblong; standing out of the open end of the berry.

ESS. CHAR. B. *Empalement* a bud of 3 leaves. *Bloss.* o. *Chives* many. *Tips* target-shaped; with 8 clefts.

F. *Empalement* a bud of 3 leaves. *Bloss.* o. *Shaft* o. *Seed* 1; with a very entire berry-like cup.

Obs. This species of berry is very singular, and strictly speaking can hardly be called a seed-vessel.

common

TAX'US *bacca'ta*. Leaves near together.—

Hunt. evel. p. 378; *i. p.* 275. *ed. II.*—*Blackw.* 572.—*Cam. epit.* 840.—*Tourn.* 362. 1.—*J. B. i. b.* 241. 2.—*Dod.* 859. 1, repr. in *Lob. obs.* 637. 1; *ic. ii.* 232, *Ger. em.* 1370, and cop. in *Ger.* 1187. 2, and *Park.* 1412.—*Gars.* 580.—*Matth.* 1099.—*Speët. de la nat.* 11. 2, at *ii. p.* 65, cop. in *nat. delin.* 8. 2, at *ii. p.* 70.—(*Lon. i.* 22. 3, is a different plant.)

Berry very singular, proceeding from a receptacle which half covers and protects the seed, coming to perfection in the 2d year. *Seed* with 2 seed-lobes. LINN.—*Bark* reddish. *Berries* when ripe red.

Yew Tree.—Mountainous woods and hedges. *R. syn.*—Mountains of Westmorland, Cumberland, and hills of Herefordshire. HUDS.—In a truly wild state out of the clefts of the rocks on Giggleswick, Scar.

Scar. CURT. Mr. WOODWARD—where several grow out of the fissures, and spreading on each side, cloath the rock to some distance. [In inaccessible situations, on the rocks of Borowdale, and on Conzick Scar, near Kendal. There can be little doubt but these are its truly natural situations. Mr. WOODWARD.—Numbers scattered over the country between Stourport and Abberley, Worcestershire. Clearly an indigenous tree. ST.] T. Mar. Apr.

It grows best in a moist loamy soil. On bogs or dry mountains it languishes. It bears transplanting even when old. It is often planted to make hedges, and as these hedges admit of clipping, they form excellent skreens to keep off the cold winds from tender plants—The wood is hard, smooth, and beautifully veined with red. It is converted into bows, axle-trees, spoons, cups, cogs for mill-wheels and flood-gates for fish-ponds, which hardly ever decay—The berries are sweet, and viscid. Children often eat them in large quantities without any inconvenience.—Swine are fond of them and are said to devour them with impunity.—The fresh leaves are fatal to the human species. Three children were killed by a spoonful of the green leaves. They died without agony or any of the usual symptoms of vegetable poisons. The same quantity of the dried leaves had been given the day before without any effect. *Percival's essays* iii.—Sheep and Goats eat it, Horses and Cows refused it, LINN.—but there are instances of both having been killed by eating it, branches having been found in their stomachs. *Gent. Mag.* lvi. 941, and Sheep are said to have been killed by browsing upon the bark.—I suspect that the loppings in a half dried state, are most detrimental to cattle.

Order XIV.

SYNGENESIA; TIPS UNITED.

1246. RUS'CUS. Pettigree.

B. Barren Flowers.

EMPAL. Cup; with 6 leaves; upright, but expanding. Leaves egg-shaped, convex; the edges at the side reflected.

BLOSS. none, unless you consider every other leaf of the cup as such.

Honey-cup egg-shaped; as large as the cup; blown up; open at the rim; upright.

CHIVES. Threads 0. Tips 3; expanding; placed upon the end of the honey-cup; united at the base.

F. Fertile Flowers.

EMPAL. BLOSS. and Honey-cup as above.

POINT. Seed-bud oblong-egg-shaped; hidden within the honey-cup. Shaft cylindrical; as long as the honey-cup. Summit blunt; projecting through the mouth of the honey-cup.

S. VESS. Berry globular; with 3 cells.

SEEDS 2; globular.

ESS. CHAR. B. Empalement of 6 leaves. Bloss. 0. Honey-cup in the centre; egg-shaped; perforated at the end.

F. Empalement, Blossom, and Honey-cup as in B. Shaft 1. Berry of 3 cells. Seeds 2.

Obs. In this and other genera nearly related to it, it is seldom that all the seeds come to perfection; for the most part one seed takes to enlarge, and by pressure destroys the others.

prickly RUS'CUS aculeatus. Leaves bearing the flowers on the upper surface; naked.—

Sheldr. 14.—Mill. ill.—Trag. 919, cop. in Lon. i. 78. 2.—Blackw.

155.—Cam. epit. 935, cop. in Park. 253.—Gars. 504.—Matth.

1214, cop. in J. B. i. a. 579.—Dod. 744, repr. in Lob. obl. 362.

1; ic. i. 637. 2, Ger. em. 907, and improved in H. ox. xiii. 5.

row 2. 1.—Ger. 759.

Leaves

Leaves with numerous parallel veins, and ending in a sharp thorny point. *Flower* not properly growing out of the leaf, but on a fruit-stalk from the bosom of the leaf, which is immerfed beneath the outer coat, from whence it may with ease be diffefted. Mr. WOODWARD.—*Stem* tough, woody, branched, scored. *Leaves* egg-fpear-shaped, pointed. *Blofs.* yellowish green. *Berries* red.

Knee Holly. Butchers Broom.—Woods, thickets, and hedges. [Hethel Woods near Norwich. Mr. CRBWE.—Heath near Lowestoft. Mr. WOODWARD.] S. March, April.

In Italy it is made into besoms, and the butchers use them to sweep their blocks. Huxters place the boughs round their bacon and cheese to defend them from the Mice, for they cannot make their way through the prickly leaves. It will not bear the winters of Sweden.

1194. BRYO'NIA. Bryony.

B. *Barren Flowers.*

EMPAL. *Cup* of 1 leaf; bell-shaped; with 5 awl-shaped teeth.

BLOSS. with 5 divisions; bell-shaped; fixed to the cup; *segments* egg-shaped.

CHIVES. *Threads* 3; very short. *Tips* 5, of which 2 are on each 2 of the threads, growing together; and only 1 on the 3d thread.

F. *Fertile Flowers upon the same plant.*

EMPAL. *Cup* as above; superior; permanent.

BLOSS. as above.

POINT. *Seed-bud* beneath. *Shaft* with 3 clefts; as long as the blossom when open. *Summits* notched at the end; open.

S. VESS. *Berry* oval; smooth.

SEEDS several; fixed to the outer coat of the berry; somewhat egg-shaped.

ESS. CHAR. B. *Empal.* with 5 teeth. *Blofs.* with 5 divisions. *Threads* 3.

F. *Empal.* with 5 teeth. *Blofs.* with 5 divisions. *Shaft* with 3 clefts. *Berry* nearly globular, with many seeds.

BRYO'NIA *dioi'ca.* Leaves hand-shaped; rough *red berried* on both sides, with callous points. Barren and fertile flowers on different plants. JACQ. in *syfl. veg. ed.* xiv. ST. Jacq.

Jacq. fl. 199.—Sheldr. 77.—Mill. ic. 70.—Blackw. 37.—Tourn.

15. 1, parts of fructification.—Dod. 400, repr. in Lob. obs. 343.

3; ic. i. 624. 2, Ger. em. 369.—Gars. 181.—Ger. 720.—

Fuchs. 94, cop. in J. B. ii. 143. 2.—Cam. epit. 987, cop. in

Park. 178. 1.—Trag. 820, abr. in Lon. i. 209. 2.—Math. 1283.

Root whitish yellow. Berries red. C. BAUH.—Bloss. dirty white, with green lines. HALL. ST.—Fertile flowers smaller, on shorter fruit-stalks. REICH.—Barren and fertile plants generally growing at a great distance from each other, never having seen them growing together but once. Barren fruit-stalks longer than the leaves, with from 10 to 20 flowers. Fertile fruit-stalks very short, with from 3 to 6 flowers. Berry red. Seeds 5 to 6. LEERS.—Leaves not properly hand-shaped, even the lower ones being truly lobed. Our plants are all dioecious, and have red berries. I have never observed that with black berries. The *Bryonia alba*, *baccis nigris* of Ray, is an addition of Dillenius. Mr. WOODWARD.—Fertile plant: Broad topped spikes from the bosom of the leaves, about the length of the leaf-stalks, with sometimes a small leaf at the base of the uppermost whorl. Fruit-stalks from 2 to 4 together, disposed as it were in 2 whorls, downy. Empal. and Bloss. as if expansions of one and the same substance; on a short fruit-stalk. Empal. divisions strap-awl-shaped, bowed outwards. Bloss. nearly as small again as the barren blossom, downy within and without; segments strap-oblong. The rudiments of 5 chives, at the insertion of the segments of the blossom, equal in number to that of the tips of the barren flowers. ST.

Bryonia dioica, REICH. fl. moeno-francof. n. 706.—*alba*, Huds. Leers, and Lightfoot.—*Vitis alba*, Fuchs. 95.—*Vitis alba*, five *Bryonia*, Cam. epit. 987.—(*B. alba*, Linnæus and Scop. the black berried *Bryony* is a different species, and is said by Pluk. amalth. p. 45. to be not unfrequent about Cambridge, but, as Mr. Relhan does not notice it, I conclude it to be now extinct there.) ST.

Bryony. Wild Vine.—Hedges and thickets. P. May.

The root is purgative and acrid; a dram of it in substance, or half an ounce of it infused in wine is a full dose. A cold infusion of the root in water is used externally in sciatic pains. A cataplasm of it is a most powerful discutient—A decoction made with one pound of the fresh root is the best purge for horned cattle—The active virtues of this plant seem to give it a claim to more attention than is now bestowed upon it—Some people have a method of forming the roots into human figures, and selling them for mandrakes.—Goats eat it; Horses, Cows, Sheep and Swine refuse it. LINN.—2 or 3 of the berries have been eaten without any observable effects. Mr. HOLLEFEAR.

Class

Class XXIII.

P O L Y G A M I A.

VARIOUS DISPOSITIONS.

THIS Class consists of plants in which some of the flowers in the same species have *both* CHIVES and POINTALS, and others have *only* CHIVES, or *only* POINTALS.

H. Signifies the flowers that have both *Chives* and *Pointals*.

B. Signifies the flowers that have only *Chives*.

F. Signifies the flowers that have only *Pointals*.

It is remarkable that in trees with broad leaves, where the Chives and Pointals are in different Empalements, or on distinct trees, as the HASEL, the POPLAR, and the ASH, the flowers come out before the leaves are fully expanded, that the passage of the dust from the Chives to the Pointals may not be interrupted: but where the leaves are narrow, as in the FIR and the YEW Tree, no such provision takes place.

Order

Order I.

MONOECIA; UPON I. PLANT.

1256. HOL'GUS. H. *Husk* 2 valves, containing 1 flower. *Chives* 3. *Shafts* 2. *Seed* 1.
 B. *Husk* 2 valves, containing 1 flower. *Chives* 3.
1258. VALAN'TIA. H. *Empalement* 0. *Blofs.* with 4 divisions. *Chives* 4. *Shaft* cloven. *Seed* 1.
 B. *Empalement* 0. *Blofs.* with 3 or 4 divisions. *Chives* 3 or 4.
1266. A'GER. H. *Cup* with 5 clefts. *Blofs.* 5 petals. *Chives* 8. *Shafts* 2. *Caps.* a double berry; winged.
 B. *Cup* with 5 clefts. *Blofs.* 5 petals. *Chives* 8.
1259. PARIETA'RIA. H. *Cup* with 4 clefts. *Blofs.* 0. *Chives* 4. *Shaft* 1. *Seed* 1.
 F. *Cup* with 4 clefts. *Blofs.* 0. *Shaft* 1. *Seed* 1.
1260. A'TRIPLEX. H. *Cup* with 5 leaves. *Blofs.* 0. *Chives* 5. *Shaft* cloven. *Seed* 1.,
 F. *Cup* with 2 leaves. *Blofs.* 0. *Shaft* cloven. *Seed* 1.
- † *Euphorbia portlandica.* *Euphorbia Characias.* *Lemna.*
Avena elatior. *Ilex.*

Order II.

DIOECIA; UPON II. PLANTS.

1273. FRAX'INUS. H. *Empal.* 0; or with 4 divisions. *Blofs.* 0; or with 4 petals. *Chives* 2. *Point.* 1. *Seed* 1.
 F. *Empal.* 0; or with 4 divisions. *Blofs.* 0; or with 4 petals. *Point.* 1. *Seed* 1.

† *Callitriche.* *Ilex Aquifolium.*

Order

Order I.

MONOECIA; UPON I. PLANT.

1256. HOL'CUS. Soft-grafs.

Plate II. fig. 30.

H. *Flowers with Chives and Pointals.*

EMPAL. *Husk* inclosing 1 or 2 florets; with 2 valves; stiff; without awns.

Outer Valve egg-shaped; concave; large; inclosing the *Inner*, which is oblong; with its sides rolled inwards.

BLOSS. *Husk* of 2 valves; tender; beset with soft hair; smaller than the empalement. *Outer Valve* generally furnished with a stiff awn, which is longer than the empalement. *Inner Valve* without an awn; very small.

CHIVES. *Threads* 3; hair-like. *Tips* oblong.

POINT. *Seed-bud* turban-shaped. *Shafts* 2; hair-like. *Summits* pencil-shaped.

S. VESS. none. The blossom incloses, protects and adheres to the seed.

SEED solitary; egg-shaped; inclosed.

B. *Barren Flowers smaller than the other.*

EMPAL. *Husk* with 2 valves. *Valves* between egg and spear-shaped; rolled inwards; without awns; sharp.

BLOSS. none.

CHIVES. *Threads* 3; hair-like. *Tips* oblong.

ESS. CHAR. H. Empal. a husk with 1 or 2 flowers. Bloss. a husk awned. Chives 3. Shafts 2. Seed 1.

B. Empal. a husk of 2 valves. Bloss. 0. Chives 3.

HOL'CUS *mol'lis*. Husks almost naked, with 2 creeping florets; that with chives and pointals without awns; that with only chives with a jointed awn. LINN.—Root creeping. Joints of the stem woolly. Awn extending beyond the spiket. Both florets with chives and pointals. CURT.

Curt.

POLYGAMIA MONOECIA.

Curt. v. 54.—*Leers* 7. 7, branch of the panicle.—*Schreb.* 20. 2.—*Scheuch.* 4. 25, a flower.—*Lob. adv. alt.* 467. 2, cop. in *J. B.* ii. 457, the awns not expressed.

Resembles *H. lanatus*, but the empalements more pointed, and also more taper-pointed than in the other species. *LINN.*—Differs from *H. lanatus*, as follows: *Roots* creeping like those of *Triticum repens*. *Straws* taller. *Leaves* green. *Empalement*, smooth. *Awns* straight, after flowering jointed, projecting somewhat beyond the empalement. *SCHREB.*

Avena. *Hall.* hist. 1485, to which genus its structure shews it really to belong.—*Aira mollis.* *Schreb. spicil.* p. 51. *ST.*

Corn fields, *RAY.* *HUDS.* *ST.*—hedges and woods. *CURT.*

P. July, August.

Cattle and Sheep are fond of it: Goats and Horses eat it.

meadow

HOL'CUS *lana'tus.* Husks woolly, with 2 florets; the floret with chives and pointals without an awn; that with only chives with an awn bowed back.—

Curt. iv. 38.—*Schreb.* 20. 1.—*Leers* 7. 6, branch of the panicle.—

J. B. ii. 466. 3.—*Scheuchz.* 4. 24, A, B, flowers.—*Park.* 1155. 1.—*Andersf.*

The whole plant of a velvet-like softness. *LINN.*—*Barren* floret containing a pointal. *Seed-bud* similar to that of the fertile floret, but much smaller. *Shafts* awl-shaped, simple. *Seed* very minute, abortive. *CURT.*

Meadows and pastures.

P. June, July.

1258. VALAN'TIA. Cross-wort.

H. *Flowers with chives and pointals solitary.*

EMPAL. hardly any; the feed-bud occupying its place.

BLOSS. *Petal 1; flat; with 4 divisions. Segments egg-shaped; pointed.*

CHIVES. *Threads 4; as long as the blossom. Tips small.*

POINT. *Seed-bud beneath; large. Shaft as long as the chives; cloven half way down. Summit a knob.*

S. VESS. *leather-like; compressed; reflected.*

SEED *single; globular.*

B. *Barren Flowers solitary; 1 placed on each side the fertile one.*

EMPAL. *as above.*

BLOSS. *as above, with 3 or 4 divisions.*

CHIVES *as above.*

POINT. *Seed-bud beneath; small. Shaft and summits imperfect, and hardly discernible.*

S. VESS. *barren; but there is a slender oblong rudiment which adheres to the side of the fertile flower.*

ESS. CHAR. H. *Empal. o. Bloss. with 4 divisions. Chives 4. Shaft cloven. Seed 1.*

B. *Empal. o. Bloss. with 3 or 4 divisions. Chives 3 or 4. Pointal imperfect.*

VALAN'TIA *Aparine*. Barren flowers with 3 clefts, *Goose-grass* on pedicles which grow on the fruit-stalk of the fertile flower. —

Galium tricornis, ST. which see, p. 153, where “*Valantia aparine*” and its specific character, placed at the bottom of the page, should have been inserted between the description and place of growth. ST.

VALAN'TIA *Crucia'ta*. Barren flowers with 4 common clefts. Fruit-stalks with 2 leaves. —

Walc. to follow Blackw. and Garf. 235 after Dod. &c. See references to figures at p. 149. — Tourn. 39. 2, F.

Chives about half as long as the blossom. Mr. HOLLEFEAR. ST. — In several of the *Galiums* there are flowers with only chives frequently intermixed, as in the *G. mollugo*, *Aparine* and *parisense*, and in both genera some blossoms cloven into 3. Wigg. — Neither does the number of seeds afford a better mark of distinction, as in some of the *Valantias* there are, *two*. Several of the *Galiums* have the

the most striking and close resemblance to some of the *Valantias*. Wigg. ST.—Stems numerous, simple, ascending, 4-sided, with rounded angles, and intermediate furrows, beset with long expanding hairs, purplish at the joints. Leaves in fours, the lower oval, very small, the upper egg-spear-shaped, the uppermost spear-shaped, crowded, hairy. Bunches on fruit-stalks from the bosom of the leaves, with from 6 to 8 flowers. Fruit-stalks usually in threes. Bloss. segments 3 to 5 in both barren flowers and flowers with chives and pointals. Chives equal in number to the segments of the blossom, and bent back between them after the dust is shed. In one flower with chives and pointals with 5 segments, were 5 chives bent back between the segments, the tips being withered, and 4 others shorter, with the dust then ripe, and the pointal cloven into 4, 3 of which had a perfect, and the 4th an imperfect summit. Mr. Woodw.—Stem square, the corners rounded and elevated, hairy, sometimes when fully grown 4 feet long, weak, requiring some support from other plants. Leaves from the corners of the stem, smooth above. Fruit-stalks forked as much as 7 times, hairy, 6 in a whorl, 3 together from the base of opposite leaves, bent downwards after flowering. Floral-leaves spear-egg-shaped, to the middlemost fruit-stalk mostly 3, to the lateral ones 2. Chives yellow, inserted at the fissures of the blossom, at first upright, afterwards bent back upon the seed-bud. Tips roundish, after shedding their dust buff-coloured. Seeds 2 dry berries, united at the base, kidney-globular, smooth, most frequently single, one of the 2 seed-buds generally proving abortive. The structure of its parts proves it to be really a species of *Galium*. Tournefort has *Galium Aparine* and *Cruciata*, but observes, that it is only in conformity to custom that he has thus divided into 3 what he confesses ought to form only one genus. Linnæus united the 2 first, but an attachment to a favourite system led him to retain the *Cruciata* under the new title of *Valantia*. ST.—When the seed-vessels ripen, the leaves bend inwards and cover them so effectually, that birds cannot get at them without tearing away the leaves. Blossom yellow.

Galium cruciata, Scop. &c. which see at p. 149. ST.

Gross-wort. Mug-weed.

Roughs and ditch banks.

P. Apr.—July.

1259. PARIETARIA. Pellitory.

H. 2 flowers containing both chives and pointals are inclosed within 1 flat fence of 6 leaves; the 2 opposite and outer leaves the largest.

EMPAL. Cup 1 leaf, with 4 clefts; flat; blunt; half the size of the fence.

BLOSS. none; unless the cup is considered as such.

CHIVES. Threads 4; awl-shaped; longer than the cup; bursting it open; permanent. Tips double.

POINT. Seed-bud egg-shaped. Shaft thread-shaped; coloured. Summit pencil-shaped; with a knob.

S. VESS. none. The Cup becoming longer, larger, and bell-shaped, and its segments approaching, closes upon the seed.

SEED single; egg-shaped.

F. Flowers with only pointals; 1 placed between the other 2, within the same fence.

EMPAL. as above.

BLOSS. none.

POINT. as above.

S. VESS. none. Cup slender; inclosing the fruit.

SEED as above.

ESS. CHAR. H. Empalement with 4 clefts. Bloss. o. Chives 4. Shaft 1. Seed 1; superior, lengthened out.

F. Empalement with 4 clefts. Bloss. o. Chives o. Shaft 1. Seed 1; superior, lengthened out.

PARIETARIA officinalis. Leaves spear-egg-shaped. common
Fruit-stalks forked. Cups of 2 leaves.—

Ludw. 115.—Walc.—Ger. 261.—Fl. dan. 521.—Curt. iv. 39, wanting the succulent habit of the plant.—Pet. 8. 1.—Fuchf. 277, cop. in J. B. ii. 976. 2.—Garf. 441.—Lonic. i. 137. 1.—Cam. epit. 849, abridged in H. ox. v. 30. row 3. 1.—Matth. 1113, cop. in Dod. 102, which repr. in Lob. obs. 130; ic. i. 258. 1, Ger. em. 331, and cop. in Park. 437.—Blackw. 156.—Trag. 193.

Fertile flowers 4-edged, pyramidal. LINN.—Stems reddish. Bloss. greenish white. Tips, if touched when ripe with the point of a needle, burst, and throw out their dust with considerable force.

Pellitory of the Wall.

On old walls and amongst rubbish.

P. May—Sept.

This

This plant was formerly in repute as a medicine, but it does not seem to possess any remarkable qualities.—It is asserted that the leaves strewed in granaries destroy the Corn Weevil.—It contains, I have been informed, a considerable quantity of nitre, and that in making an extract from it, the mass has taken fire. The *Nitraria* also contains the same salt, and is said not to flourish unless Nitre is mixed with the soil in which it grows. ST.

1260. A'TRIPLEX. Orache.

H. *Flowers with chives and pointals.*

EMPAL. Cup, 5 leaves; concave; permanent. *Segments* egg-shaped; concave; membranaceous at the edges.

BLOSS. none.

CHIVES. *Threads* 5; awl-shaped; placed opposite to the leaves of the cup, and longer than them. *Tips* roundish; double.

POINT. *Seed-bud* round. *Shaft* deeply divided; short. *Summits* reflected.

S. VESS. none. The Cup closing; with 5 sides and 5 angles; the angles compressed, deciduous.

SEED single; roundish; flattened and depressed.

F. *Flowers with only pointals, on the same plant.*

EMPAL. Cup, 2 leaves; flat; upright; egg-shaped; sharp; large; compressed.

BLOSS. none.

POINT. *Seed-bud* compressed. *Shaft* deeply divided. *Summits* reflected; sharp.

S. VESS. none. The valves of the cup, which are large and heart-shaped, inclose the seed between them.

SEED single; roundish; compressed.

ESS. CHAR. H. *Empalement* of 5 leaves. *Bloss.* o. *Chives* 5. *Shaft* with 2 divisions. *Seed* 1; depressed.

F. *Empalement* of 2 leaves. *Bloss.* o. *Chives* o. *Shaft* with 2 divisions. *Seed* 1; compressed.

Obs. There is a very great affinity between *Atriplex* and *Chenopodium*, the presence of the *flowers with only pointals* in the *Atriplex* is the only mark of distinction; for if the *Chenopodium* had these flowers it would be *Atriplex*; and the *Atriplex* without them would be *Chenopodium*.

A'TRIPLEX *portulacoides*. Stem shrubby. *shrubby*
Leaves inversely egg-shaped.—

Dod. 771. 1, repr. in *Ger. em.* 523. 2.—*Math.* 160.—*J. B.* i. b. 223.—*Clus.* i. 54, repr. in *Lob. obs.* 213. i; *ic.* i. 392. 1, *Ger. em.* 523. 3, and cop. in *Park.* 724. 1, and *Pet.* 7. 7, leaves too pointed.

Leaves opposite, entire. **LYONS**.—Stem and branches usually declining. Leaves sea-green, the young ones spear-shaped, and strap-spear-shaped. Bunches branched, terminating, and from the bosom of the upper leaves, with a few small leaves interspersed. **Mr. WOODWARD**.—Whitish. Spikes greenish purple.

Halimus angustifolius procumbens. *Ger. em.* 523. **ST.**

Sea Purslane.—Sea shores on a clayey soil. **S.** July, Aug.

Cows, Sheep and Goats eat it.

A'TRIPLEX *lacinia'ta*. Stem herbaceous. Leaves frosted trowel-shaped, toothed, silvery underneath, **LINN**.—indented-toothed, waved. **HUDS.***

Math. 463, cop. in *Park.* 748. 4.—*Ger.* 257. 4.—*Dod.* 615. 4, repr. in *Lob. obs.* 128. 3, *ic.* i. 255. 1, *Ger. em.* 325. 4, and cop. in *J. B.* ii. 974. 1, *H. ox.* v. 32. 17, and *Pet.* 7. 3.

Whole plant covered with a skin which peels off. Stem upright, cylindrical, naked, rod-like. Spikes with chives and pointals terminating. Tips of a pleasant red. Flowers with only pointals in pairs. Empalement of the fruit large, smooth, with hand-like rents, pointed, compressed, with 5 teeth, the middlemost the largest, nearly of the size and shape of the *Asparagus*. **LINN**.—Stem 2 feet high, nearly upright, branched. Branches open. Leaves silvery, mealy. When sown in a garden became β **HUDS.**—Stem much branched, expanding, in what few plants I have seen prostrate, smooth, yellowish. Leaves, the lower trowel-shaped, the upper trowel-spear-shaped; below very entire at the edge, above variously jagged, sprinkled with a shining mealiness; mostly alternate, some few even of the upper ones opposite. Leaf-stalks very short. Valves of the seeds very large, trowel-shaped, covered with the same mealiness as the leaves. **Mr. WOODWARD**.

Sea shores, [near Harwich. **Dr. J. E. SMITH**.—Pakefield, Suffolk. **Mr. STONE**.—Ramside opposite the Isle of Walney and Rofebeck Low Furness, Lancashire. **Mr. WOODWARD**.]

A. July, August.

Cows eat it.

* Including also *A. tatarica* as a variety. **ST.**

β HUDS.—*A. tatarica*. Leaves trowel-shaped, indented-toothed, waved, alternate. LINN.

Stems upright, long, branched, roundish, smooth, 3 feet high. Leaves trowel-shaped, indented, pointed, contracted, somewhat green. Bunches or spikes terminating. Empalement of the fruit egg-shaped, pointed, with a very small tooth at the edge on each side, smooth without. It blossoms very late. Flowers with chives and pointals abortive. LINN. hort. upf.—Stem 3 to 5 feet high, upright, branched. Branches upright. Leaves and empalement of the fruit as in α HUDS.

Atriplex maritima nostras procerior, foliis angulosis incanis, admodum sinuatis. R. syn. 152. ST.

wild A'TRIPLEX *hastata*. Stem herbaceous. Valves of the empalement in the fertile flowers large; trowel-shaped; indented.—

Curt. ii. 20.—H. ox. v. 32. 14, cop. in Pet. 7. 1.—(Ger. em. 326. 6, is *Chenopod. album*.)

Empal. of the fruit not unfrequently toothed on the disc. LEERS.—Varies in the stem being upright or trailing; the leaves trowel-shaped and indented-toothed, or toothed, or entire. HUDS.—Agrees with *A. patula* as follows. Stems angular and somewhat furrowed. Leaves triangular and halberd-shaped, the appendages longer or shorter, toothed or entire, the upper usually spear-shaped and entire. Valves of the seeds larger than those of the *A. patula*, flatter, and toothed only at the edges. Branches often horizontal, and even bending down. MR. WOODWARD.

Fat-hen. Lamb's-quarters.—On rubbish, dunghills, and in kitchen gardens.

A. August, September.

It is sometimes gathered as a pot-herb, and eaten in lieu of spinach and other greens.—Cows, Goats, Sheep, and Swine eat it, but do not seem to be fond of it.

β HUDS.—*Atriplex maritima perennis folio deltoide seu triangulari, minus incano*. R. syn. p. 152. ST.

Sea coast. P. according to H. ox. on which ground Ray gave it place as a distinct species, but Doody asserts it to be an *A*.

γ HUDS.—Stems trailing. Leaves hardly indented. RAY.—All the leaves oval-spear-shaped, very entire. MR. WOODWARD.

J. B. ii. 974. 2, repr. in Chabr. 306. 4, and cop. in Pet. 7. 2.

Banks of the sea marshes near Maldon, Essex. About London, and on the sea-side in Selfey, in Shepey Island. R. syn. — [Yarmouth. MR. WOODWARD.]

Atriplex maritima ad foliorum basin auriculata, procumbens, et nec vix sinuata. R. syn. 152. ST.

A'TRIPLEX *patula*. Stem herbaceous, with open *spear* branches. Leaves somewhat trowel-spear-shaped. Empalements of the fruit toothed on the disc.—

Matth. 460, cop. in Dod. 615. 3, Lob. obs. 129. 4; ic. i. 257. 2,

Ger. em. 326. 7, which cop. in Park. 748. 7, H. ox. v. 32. 15,

and Pet. 7. 5.—J. B. ii. 973. 3, and 4.

Resembles *A. hastata* which see. *Valves of the seeds* more convex, and toothed, and tubercled on the sides. Mr. Woodward.

On rubbish and ditch-banks.

A. Augst.

β Leaves halberd-shaped, toothed. Huds.

Atriplex erecta. Hudson, ed. I.

At the entrance into Battersea Field from Nine Elms. R. syn.

A'TRIPLEX *littoralis*. Stem herbaceous; upright. *grass-leaved* Leaves all strap-shaped; very entire, LINN.—or ferrated. Mr. Woodward. ST.

α Leaves very entire. Mr. Woodward. ST.

Pet. 7. 6.

Leaves sometimes spear-shaped. GMEL. ST.—Differs from *A. patula* as follows. Colour always sea-green. Stem furrowed. Leaves not always very entire, but sometimes with scattered teeth, and bowed back at the end. WILLICH. ill. n. 6.—Stems numerous, at first trailing, afterwards declining or upright, much branched. Leaves perfectly strap-shaped, the lower now and then toothed. *Valves of the seeds* triangular, toothed at the edges.

By the peer at Ramsgate, Kent. R. syn. [Yarmouth, Blakeney, and Wells, Norfolk. Mr. Woodward.]

β HUDS.—*Boccon rar.* 30. 1, carelessly cop. in H. ox. v. 32. 20.

γ HUDS.—Leaves blunter. Probably a variety of α.

Ramsgate Peer, Kent. R. syn.

ε Leaves toothed. Mr. Woodward.

Gmel. iii. 14. 2.—Pet. 7. 4, leaves *spear-oblong*, more like those of *Chenopodium Glaucum*.—(J. B. ii. 973. 1, cop. in H. ox. v. 32. 16, is *Chenopodium glaucum*.)

Leaves strap-shaped, alternate, fleshy, toothed, not very entire, in our country at least. ROTH.

Atriplex marina according to Mr. Lightfoot, but Linnæus describes his *marina* as a plant about a hand's breadth high. Mr. Woodw.—*A. ferrata*. Stem herbaceous, nearly upright. Leaves strap-shaped, ferrated. HUDS.—*A. littoralis*. Roth. ii. 89. n. 27. ST.—I have found some stems with the very narrow entire leaves of the *A. littoralis*, and others, which were the largest and strongest, entirely clothed with broader narrow elliptical leaves, toothed or jagged throughout, and ferrated leaves both from the same root. Mr. Woodw.

—Lin

—Linnaeus refers the *A. ferrata* of Hudson to his *A. marina*, but Mr. Hudson does not acknowledge them to be the same. My specimens corresponding with their specific characters appear to me to be a variety of *A. littoralis*. ST.

Atriplex valois *feminum integris, foliis omnibus ex lineari-lanceolatis, integris et ex sinuato-dentatis*. Gmel. lib. iii. p. 72. Mr. WOODW. ST.

Sea shores and on rubbish.—By the river and on the banks of the marshes about Maldon, Essex. *R. syn.*—[Wells, Norfolk, Mr. CROWE—and Yarmouth and Blakeney, Norfolk. Mr. WOODW.]

A. August.

stalked A'TRIPLEX *pedunculata*. Stem herbaceous; straddling. Leaves spear-shaped; blunt; entire. Flowers with only pointals on fruit-stalks.—

Pluk. 36. 1, *cop. in Pet.* 7. 8.—*Fl. dan.* 304.*

Branches straddling. *Bunches* terminating, and from the bosoms of the leaves. *Fruit-stalks* lateral, simple, in pairs or incorporated. *Empalement* resembling the fruit of *Thlaspi Bursa Pastoris* with 3 lobes, the middlemost the smallest. LINN.—*Stem* much branched. *Leaves* some inversely egg-shaped, sea-green. *Fertile flowers* on long fruit-stalks. *Valves of the fruit* egg-shaped, the middlemost lobe triangular and short. Mr. WOODWARD.

Sea shores. Near Scirbeck, 1 mile from Boston, and in the Isle of Thanet, near the Ferry. *R. syn.* Near Yarmouth, [in the salt marshes out of the North gates. Mr. WOODWARD.—At LYNN. Dr. J. E. SMITH and Mr. CROWE.] A. July—Sept.

β HUDS.—Near Lynn. Norfolk. *R. syn.*

The July Arrach Moth. *Phalæna Atriplicis*, *Phalæna lubricipeda*, *Phalæna exfoleta*, *Phalæna Oxyacanthæ*; and *Aphis Atriplicis* are found upon the different species.

* Leaves much too pointed. Habit not well expressed. Mr. WOODWARD. ST.

1266. A'C E R. Maple.

H. *With chives and pointals.*

EMPAL. *Cup* leaf 1, with 5 clefts; sharp; coloured; flat and entire at the base; permanent.

BLOSS. *Petals* 5; egg-shaped; broadest towards the end; blunt; but little larger than the cup; expanding.

CHIVES. *Threads* 8; awl-shaped; short. *Tips* simple. *Dust* cross-shaped.

POINT. *Seed-bud* compressed; nearly buried in a large perforated convex receptacle. *Shaft* thread-shaped; daily growing longer. *Summits* 2; tapering; slender; bent back.

S. VESS. *Capsules* 2; united at the base; roundish; compressed; each terminated by a very large membranaceous wing.

SEEDS solitary; roundish.

B. *Barren Flowers.*

EMPAL. BLOSS. CHIVES as above.

POINT. *Seed-bud* 0. *Shaft* 0. *Summit* cloven.

ESS. CHAR. H. *Empal.* with 5 clefts. *Petals* 5. *Chives* 8. *Point.* 1. *Capsules* 2 or 3 with one seed, terminated by a wing.

B. *Empal.* *Bloss* and *Chives* as in H.

Obs. At the first opening of the flower the *Summit* only makes its appearance and after some days the *Shaft* shoots out. In *Acer Pseudo-Platanus* the blossom is hardly separated from the cup, and the chives are long.

In some flowers in the same rundle the lower ones have tips which do not shed their dust; but the pointals bring forth perfect fruit; and the upper ones have tips which shed their dust, but the pointals fall off and perish.

A'C E R *Pseudo-Plat'anus*. Leaves with 5 lobes; unequally serrated. Flowers in bunches.—

Hunt. *evel.* p. 200. i. p. 193. *ed.* II.—*Speët. de la nat.* ii. 34. 1, at p. 293, *cop.* in *nat. delin.* ii. 21. 1, at p. 312.—*Lob. obs.* 614. 1, repr. in *ic.* ii. 199. 2, and *cop.* in *Park.* 1425. 1.—*Clus.* i. 10. 1, repr. in *Dod.* 840. 1, and *Ger. em.* 1484. 1.—*Trag.* 1125. (*Cam. epit.* 63 is *A. platanoides.*)

Bunches

Bunches somewhat egg-shaped, nodding. *Flowers* yellowish green. LEERS.—*Bloss.* so much resembling the empalement in its texture that one would be apt at first sight to regard it as an Empalement with 10 clefts. *Tips* double, with 2 cells. *Recept.* woolly. WITH.

Sycamore-Tree.—Woods, hedges and near houses. T. May, June.

It flourishes best in open places, and sandy ground; but will thrive very well in richer soil. it grows quick; is easily transplanted; bears cropping, and the grass flourishes under its shade. It is said to grow better near the sea than in any other situation, and that a plantation of these trees at 50 feet asunder, with 3 sea Sallow-thorns between every 2 of them, will make a fence sufficient to defend the herbage of the country from the spray of the sea. *Gent. Mag.* 1757. p. 252.—The wood is soft, and very white. The turners form it into bowls, trenchers, &c.—If a hole is bored into the body of the tree when the sap rises in the spring, it discharges a considerable quantity of a sweetish, watery liquor which is used in making wine, and if inspissated affords a fine white sugar—The dust of the *Tips* appears globular in the microscope, but if touched with any thing moist, these globules burst open with 4 valves which then appear in form of a cross. *Scarabæus Melolontha* feeds upon the leaves. LINN.

A Horse eat it. ST.

common

A'CER *campestre*. Leaves lobed; blunt; notched.—

Hunt. eval. at p. 190; i. p. 183, ed. II.—*Tourn.* 386. 1.—*Spec. de la nat.* ii. 29. 2, at p. 290, cop. in *nat. delin.* ii. 19. 2, at p. 312.—*Dod.* 840. 2, repr. in *Ger. em.* 1484. 2.—*J. B.* i. b. 166.—*Trag.* 1123, cop. in *Lon.* i. 36. 1.

Bark angular, cork-like. Seldom ripens its fruit in Sweden.

LINN.—*Blossoms* terminating; pale green.

Maple.—Hedges and thickets.

S. June.

The wood is much used for turning in the lathe, and vessels may be turned so thin as to transmit light.—Horses will eat the leaves,

LINN.—sometimes eat and sometimes refuse them. ST.

A Horse kept at grass eat it. Mr. HOLLEFEAR.

Phalæna Aceris, and *Aphis Aceris* feed on both species.

Order II.

DIOECIA; ON II. PLANTS.

1273. FRAX'INUS. Ash.

H. *With chives and pointals.*

EMPAL. none; or a Cup of 1 leaf; with 4 divisions; sharp; upright; small.

BLOSS. none; or Petals 4; strap-shaped; long; sharp; upright.

CHIVES. *Threads* 2; upright; much shorter than the blossom. *Tips* upright; oblong; with 4 furrows.

POINT. *Seed-bud* egg-shaped; compressed. *Shaft* cylindrical; upright. *Summit* rather thick; cloven.

S. VESS. *ipear-shaped*; compressed; membranaceous; with 1 cell.

SEED single; flat; spear-shaped.

F. *Flowers with only pointals.*

EMPAL. BLOSS. POINT. S. VESS. and SEED as above.

ESS. CHAR. H. *Empal.* 0; or with 4 divisions. *Bloss.* 0; or 4 petals. *Chives* 2. *Point.* 1. *Seed* 1; spear-shaped.

F. *Seed* 1; spear-shaped.—

FRAX'INUS *excel'sior*. Leaflets serrated. Flowers common without petals.

Hunt. vel. p. 150; i. p. 145, ed. II.—Blackw. 328.—Cain. epit. 64, cop. in Park. 1419. 1.—Gars. 97 and 277.—Dod. 833, repr. in Lob. obs. 545. 1; ic. ii. 107. 2, Ger. em. 1472.—Math. 135.—J. B. i. b. 174, branch with fruit, diseased excrescencies, and no leaves.—(Lon. i. 49. 3, seems to be Sorbus aucuparia.)

Some trees producing flowers with chives and pointals, and others only flowers with pointals; but it often happens that the tree bearing flowers with both chives and pointals hath some with only pointals intermixed; and the reverse. *Empalement* and *Blossom* none. *Buds*, the lateral ones producing bunches, the terminating one leaves. LINN.—*Leaves* sometimes simple. HUNDS.—*Tips* blackish purple. POLL.—In 3 specimens from 3 different trees, the 1st had flowers with chives

chives and pointals, the 2d flowers with only chives, and the 3d with only pointals, so that this species should seem referable to the order *Trioecia*. ST.—*Leaves* opposite, on leaf-stalks; *leaflets* sitting, 4 or 5 pair, with an odd one. *Flowers* with *chives* and *pointals*, in a sort of paniced bunch. *Flower-scales* strap-shaped, 1 on the outside at the base of each pedicle. *Threads* broad and flat. *Tips* longer than the threads. WITH.

Ash-tree.—Woods and hedge-rows.

T. Mar. Apr. [and part of May. WITH.]

It flourishes best in groves, but it grows very well in rich soil in open fields. It bears transplanting and lopping.—Horses, Cows, Sheep and Goats eat it; but it spoils the milk of Cows, so that it should not be planted in dairy farms. In the north of Lancashire they lop the tops of this tree to feed the cattle in autumn when the grafs is upon the decline, the cattle peeling off the bark as food.—In a very dry summer the farmers about Cannock, Staffordshire, in default of grafs fed their Cows with the leaves. ST.—In Queen Elizabeth's time the inhabitants of *Colton* and *Hawksheadfells* remonstrated against the number of forges in the country because they consumed all the loppings and croppings, the sole winter food for their cattle. *Penn. tour* 1772. p. 29.—When growing by the water side, and of some considerable age, its branches frequently hang down somewhat in the manner of the weeping willow. The roots run near the surface, and extend themselves to a great distance, whence it is destructive to the herbage of upland pastures, but if planted on the margins of the ditches, or low boggy meadows, the roots act as underdrains, and render the ground about them firm and hard; the wood is however in this case but of little value. Mr. WOODWARD.—The wood hath the singular advantage of being nearly as good when young as when old. It is hard and tough, and is much used to make the tools employed in husbandry. The ashes of the wood afford very good potash.—The bark is used for tanning calf-skin.—A slight infusion of it appears of a pale yellowish colour when viewed between and the light, but when looked down upon or placed between the eye and an opaque object it is blue. This blueness is destroyed by the addition of an acid, and alkalies recover it again. WITH.—It will give a good though not beautiful green to cloths which have been blued. ST.—An infusion of the leaves, from half an ounce to an ounce and an half is a very good purge, and a decoction of 2 drams of the bark, or of 6 drams of the leaves has been used to cure agues.—The seeds are acrid and bitter.—In the church-yard of Lochabar in Scotland, Dr. Walker measured the trunk of a dead Ash tree which at 5 feet from the surface of the ground was 58 feet in circumference.

The

Various Dispositions, upon II. Plants.

1151

The Leopard Wood Moth, *Phalena Prasinana*, *Dominula*, and *Fraxini*; and *Chermes Fraxini* feed upon it.
β Leaves simple. T. H. W. in *Gent. Mag.* lv. p. 598.*

* No apology is I apprehend necessary for the above insertion, though an anonymous authority, to those who are acquainted with the communications of that ingenious botanist in the *Gent. Mag.* a work which would be of still higher authority were it more the custom with such of its contributors who communicate facts which have fallen under their own observation, to subscribe their names. ST.

END OF VOL. II.

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